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Effective Coordination for Metropolitan Planning

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Document Version

Publisher's PDF, also known as Version of record

Publication date:

2019

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Putra, T. H. (2019). *Effective Coordination for Metropolitan Planning: The Case of the Jakarta Metropolitan Region*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen.

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Effective Coordination for Metropolitan Planning

The Case of the Jakarta Metropolitan Region

PhD thesis

to obtain the degree of PhD at the
University of Groningen
on the authority of the
Rector Magnificus Prof. E. Sterken
and in accordance with
the decision by the College of Deans.

This thesis will be defended in public on

Monday 6 May 2019 at 09.00 hours

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Effective Coordination for Metropolitan Planning

The Case of the Jakarta Metropolitan Region

Colophon
ISBN (print) : 978-94-034-1637-3
ISBN (digital) : 978-94-034-0636-6
Front and back cover design : Taufiq Hidayat Putra
English language correction : Doctor Bojangles. Ltd
Printing : Gildeprint (www.gildeprint.nl)

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Funding : This PhD project has been financed by Scholarship for Strengthening the Reforming Institution (SPIRIT), Ministry of National Development Planning/National Development Planning Agency (BAPPENAS), the Republic of Indonesia.

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To **Tina, Rayyan** and **Mayya** for their love, pray, support, understanding and patience.

SUMMARY

Effective Coordination for Metropolitan Planning: the Case of the Jakarta Metropolitan Region

This research employs an institutional perspective to understand patterns of various types of metropolitan planning, their effectiveness and application in the Jakarta Metropolitan Region (JMR). A core characteristic of metropolitan planning is coordination. Coordination in metropolitan regions is recognized internationally as complex and difficult. It is also crucial, however, as metropolitan regions, in general, do not have a metropolitan government, but are fragmented over several local authorities (districts, boroughs, cities, towns, counties, cantons, municipalities, regencies or others). When these metropolitan areas face regional problems, such as traffic jams, inefficient transport or floods, they will need to address those regional problems through working collectively. However, working collectively implies a need for effective coordination.

It has been well-established by authors like Richard Feiock that when metropolitan government is absent, the organizations involved will need more time, more cost and more efforts to collect information, to monitor, to bargain or to enforce in order to realize a commitment. Local actors are also more likely easy to enter and to exit any coordinative commitment, and cannot mutually enforce each other. As a consequence, effective metropolitan planning can be challenging. When commitment or a common understanding is difficult to realize, for example in the case of mitigating floods, it will increase risks for citizens and impede improvements in quality of life. The establishment of effective coordination for metropolitan planning is essential in metropolitan regions.

This research focuses empirically on metropolitan planning in the Jakarta Metropolitan Region (JMR). The main question is how effective coordination for metropolitan planning in the JMR can be explained and its effectiveness improved. As discussed in Chapter 1, the JMR or the *Jabodetabekpunjur* (an abbreviation of

Jakarta, Bogor, Depok, Tangerang, Puncak and Cianjur) has distinct regional problems such as floods and traffic jams. To solve those problems, Jakarta needs to cooperate with local governments in its surrounding. Similar with other metropolitan regions generally, the JMR also does not have a metropolitan government. The JMR is fragmented over the province of Jakarta and nine districts surrounding Jakarta, which are part of two other provinces. To understand metropolitan planning in the JMR, this research highlights two case studies: development of metropolitan transportation (presented in Chapter 3) and development of a project to mitigate floods in Jakarta (presented in Chapter 4). Due to variations metropolitan planning and to obtain a reference on effective coordination, the research first develops a framework of metropolitan planning that can assist us to understand principal patterns for coordination (presented in Chapter 2). The framework of metropolitan planning is then used to structure the case studies and to formulate conclusion and policy recommendation in Chapter 5.

Chapter 2 develops a framework of metropolitan planning. The framework is developed to understand patterns of various types of metropolitan planning and to examine dynamic shifts in coordination arrangements. Institutional arrangements for metropolitan planning tend to shift towards conditions for more effective coordination. The literature review includes 96 journal articles and books discussing metropolitan planning and coordination over five continents. The journal articles and books have been published in the period 1956-2015. The literature review suggests that metropolitan planning covers both issues related to the institutional setting of metropolitan regions and coordination arrangements for metropolitan planning. The institutional setting of a metropolitan region refers to an arena with activities for shaping metropolitan governance and for exercising planning policy power for the entire metropolitan region.

There are essentially three approaches to developing the institutional setting of a metropolitan region, whether through regionalism (merger, consolidation, annexation), localism (market approach, each local government works independently) or new regionalism (inter-local government cooperation). Coordination arrangements include coordination capacity (capacity developed to create coherent plans, policies

and strategies for the entire metropolitan region) and coordination mechanisms (mechanisms used to implement metropolitan plans, policies and strategies collectively). The framework of metropolitan planning is rooted in the Theory of Transaction Cost Economics as developed among others by Oliver Williamson. The framework consists of the institutional setting of the metropolitan region, described generally to cover three approaches (regionalism, localism and new regionalism), and nine prototype coordination arrangements (prototype A to I) of metropolitan planning. A prototype represents a particular form of governance. A prototype of metropolitan planning uses particular main instruments, whether administrative control for hierarchical forms of governance (e.g., regulation and formal procedure), incentive intensity for market forms of governance (including money, award and acknowledgement), or mixed instruments for hybrid forms of governance. Prototype A for example implies that metropolitan planning uses a type of master-plan for coordination capacity and a formal-continuous coordination mechanism. Prototype I indicates a reliance on a strategic plan combined with an informal-discontinuous mechanism for Prototype A represents a strongly hierarchical form of governance and prototype I represents a market form of governance. Other prototypes (B to H), represents hybrid forms of governance.

Chapter 3 discusses metropolitan transportation and related institutional settings of the JMR. This study takes the case of the expansion of *TransJakarta*, the Bus Rapid Transit (BRT) system owned by the provincial government of Jakarta. The idea behind the BRT has been to address traffic jams in Jakarta, reduce private vehicles use, and provide better metropolitan transportation. The provincial government of Jakarta has developed *TransJakarta* to serve Jakarta's citizens through special buses with dedicated road lanes. These special buses and dedicated lanes would be expanded to surrounding districts of Jakarta to serve commuters who also contribute to traffic jams in Jakarta. Improvements by the provincial government of Jakarta to expand *TransJakarta*'s service to the JMR demonstrate a preferred form of metropolitan governance. The analysis reveals three improvements: (1) the *Megapolitan* proposal (2005-2007), representing a regionalism approach, (2) the Spatial Plan of the JMR (2008-2012), representing localism, and (3) strengthening inter-local governmental cooperation, supported by the central government (2012-now), signifying anew

regionalism approach. The research found that even though the *Megapolitan* proposal, which relies on the creation of metropolitan government, promises stronger effectiveness in developing *TransJakarta*, it was rejected by the governor of West Java, the governor of Banten and finally also rejected by the central government and the national parliament. The fundamental idea of the *Megapolitan* proposal, as proposed by the governor of Jakarta, created significant political tension as it would reduce authorities of other governors. To minimize this metropolitan political tension, a proposal emerged to work on the basis of the spatial plan of the JMR. Implementation and development would be conducted by each provincial and local government. This second improvement was accepted by the organisations involved and gives a base for inter-local government cooperation. However, the analysis also shows that this coordination practice turned out ineffective in terms of implementing further *TransJakarta* expansion. A third improvement appeared more effective as inter-local government cooperation was accepted more broadly by all organisations involved and subsequently succeeded to implement *TransJakarta* development from Jakarta to Jakarta's surrounding districts. The chapter concludes that in this case the more effective institutional setting of the JMR is in inter-local government cooperation supported by central government.

Using the framework of metropolitan planning developed in Chapter 2, Chapter 4 discusses coordination arrangements of metropolitan planning in the JMR through the case of the Ciawi and Sukamahi dams. The project is located in the regency of Bogor, which is working on instructions by the province of Jakarta to mitigate acute floods. The collective decision to build this project covers a period of 13 years. The main agreement is that organisations involved will share their resources to build the dams. This was designed as an inter-local government cooperation project supported by the central governments. The provincial government of Jakarta would share their fund to finance land acquisition of the dams. The Ministry of Public Works would share funds for the construction of the dams. The provincial government of West Java would assist with the land acquisition process. The regency government of Bogor would contribute through implementing land acquisition. This chapter revealed that the coordination capacity of metropolitan spatial planning for *Jabodetabekpunjur* uses formal regulations as instruments to essentially establish a type of master plan.

Coordination mechanisms to implementing the metropolitan spatial plan of the *Jabodetabekpunjur* use informal-discontinuous mechanisms. These mechanisms tend to use incentives to accelerate collective decisions. In addition, coordination efforts relied on regulations that would only apply to each organization involved. Collective work was encouraged through a range of incentives, both monetary and non-monetary. There was no evidence of regulations for resource-sharing for joint projects. This coordination arrangement, therefore, can be classified as prototype C of metropolitan planning. Prototype C means that the coordination arrangement uses a master plan for coordination in conjunction with informal-discontinuous mechanism for interaction. Due to lack of regulation on collective action, coordination activities to build the dams faced a range of difficulties and delay in preparing the project. It took almost two years. In this case uncertainties have contributed to transaction costs. To enhance effectiveness, in 2016, the central government took over the allocated funds from Jakarta. Following that intervention, central government has engaged in financing all costs to build the dams. The chapter points out that, in particular uncertainties around asset ownership status and budget transfer diminished significantly. This action reduced uncertainty and has enhanced coordination effectiveness. The second coordination arrangement refers to prototype B.

Prototype B assumes that the central government has a central role for metropolitan planning in the JMR. Such a pivotal role implies that central government should have a high financial capacity. It has to be noted that this situation has the potential to create uncertainty in the future as central government has financial constraints. Another problem embedded in prototype B also emerges. A reliance on a type of master plan for the metropolitan area of *Jabodetabekpunjur* also has weaknesses as it cannot fully manage fragmentation and adaptation. Using remediableness criterion, Chapter 5 asks the question which prototype metropolitan planning may be better than prototype B. The chapter proposes prototype E as a coordination arrangement of metropolitan planning in the JMR in the future. Prototype E means coordination arrangements rely on a type of master-strategic plan for metropolitan coordination capacities of *Jabodetabekpunjur*, together with informal-continuous coordination mechanisms. Prototype E asks the central government to develop a mix of formal regulation and incentives in order to reduce fragmentation and to enhance

adaptability in formulation of the metropolitan spatial plan. Prototype E also asks the central government to issue new regulations to safeguard asset ownership status for joint-projects or other collective actions. This regulation is predicted will enhance inter-local government cooperation and includes co-production with private, non-governmental organizations and citizens or communities.

SAMENVATTING

Effectieve Coördinatie voor Metropolitane Planning:

De Casus van de Metropoolregio Jakarta

Dit onderzoek maakt gebruik van een institutioneel perspectief om patronen van verschillende soorten grootstedelijke planning, hun effectiviteit en toepassing in de Metropolitane Regio Jakarta (JMR) te begrijpen. Een kernkenmerk van metropolitane planning is coördinatie. Coördinatie in grootstedelijke regio's wordt internationaal erkend als complex en moeilijk. Het is echter ook van cruciaal belang, omdat grootstedelijke regio's in het algemeen geen grootstedelijke overheid hebben, maar gefragmenteerd zijn over verschillende lokale autoriteiten (districten, stadsdelen, steden, provincies, kantons, gemeenten, regentschappen en dergelijke). Wanneer deze grootstedelijke gebieden met regionale problemen worden geconfronteerd, zoals files, inefficiënt vervoer of overstromingen, zullen zij deze regionale problemen moeten aanpakken door gezamenlijk te werken. Samenwerken impliceert echter een behoefte aan effectieve coördinatie.

Auteurs zoals Richard Feiock hebben algemeen erkend dat wanneer een grootstedelijke overheid afwezig is, de betrokken organisaties meer tijd, meer kosten en meer inspanningen nodig zullen hebben om informatie te verzamelen, te controleren, te onderhandelen of te handhaven, om betrokkenheid te realiseren. Lokale actoren zijn ook sneller geneigd om in of juist uit een coördinatieve verplichting te stappen, en zij kunnen elkaar niet wederzijds tot deelname dwingen. Als gevolg hiervan kan effectieve grootstedelijke planning een uitdaging zijn. Wanneer betrokkenheid moeilijk te realiseren is, bijvoorbeeld in het geval van het tegengaan van overstromingen, zal dit de risico's voor burgers vergroten en verbeteringen in leefkwaliteit belemmeren. Het opzetten van effectieve coördinatie voor grootstedelijke planning is essentieel.

Dit onderzoek richt zich empirisch op grootstedelijke planning in de Metropoolregio Jakarta (JMR). De belangrijkste vraag is hoe effectieve coördinatie voor grootstedelijke planning in de JMR kan worden verklaard en de effectiviteit ervan kan worden verbeterd. Zoals besproken in hoofdstuk 1, heeft de JMR of *Jabodetabekpunjur* (een afkorting van Jakarta, Bogor, Depok, Tangerang, Puncak en Cianjur) duidelijke regionale problemen zoals overstromingen en files. Om deze problemen op te lossen, moet Jakarta samenwerken met lokale overheden in de omgeving. Vergelijkbaar met andere grootstedelijke regio's in het algemeen, heeft de JMR ook geen grootstedelijke overheid. De JMR is gefragmenteerd over de provincie Jakarta en negen districten rondom Jakarta, die deel uitmaken van twee andere provincies. Om de grootstedelijke planning in de JMR te begrijpen, belicht dit onderzoek twee case-studies: de ontwikkeling van grootstedelijk transport (gepresenteerd in hoofdstuk 3) en de ontwikkeling van een project om overstromingen in Jakarta te ondervangen (gepresenteerd in hoofdstuk 4). Vanwege variaties in de grootstedelijke planning en om een referentie te krijgen over effectieve coördinatie, ontwikkelt het onderzoek eerst een raamwerk dat ons kan helpen de belangrijkste patronen voor coördinatie te identificeren (gepresenteerd in hoofdstuk 2). Het raamwerk voor grootstedelijke planning wordt vervolgens gebruikt voor het structureren van de case-studies en het formuleren van conclusies en beleidsaanbevelingen in hoofdstuk 5.

Hoofdstuk 2 ontwikkelt een raamwerk voor metropolitane planning. Het raamwerk is ontwikkeld om patronen van verschillende soorten grootstedelijke planning te begrijpen en om dynamische verschuivingen in coördinatie te onderzoeken. Institutionele arrangementen voor grootstedelijke planning benadrukken steeds vaker de noodzaak voor effectieve coördinatie. De literatuurstudie omvat 96 tijdschriftartikelen en boeken over metropolitane planning en coördinatie, verdeeld over vijf continenten. De tijdschriftartikelen en -boeken zijn gepubliceerd in de periode 1956-2015. Het literatuuroverzicht suggereert dat grootstedelijke planning betrekking heeft op zowel de institutionele setting van metropolitane regio's als coördinatie-arrangementen voor grootstedelijke planning. De institutionele setting van een grootstedelijke regio verwijst naar een arena met activiteiten voor het

vormgeven van grootstedelijk bestuur en voor het uitoefenen van macht voor de gehele grootstedelijke regio.

Er zijn in wezen drie benaderingen om de institutionele setting van een grootstedelijke regio te ontwikkelen, hetzij door regionalisme (fusie, consolidatie, annexatie), lokalisme (marktbenadering, elke lokale overheid werkt onafhankelijk) of nieuw regionalisme (samenwerking tussen lokale overheden). Coördinatieregelingen omvatten coördinatiecapaciteit (capaciteit die is ontwikkeld om samenhangende plannen, beleid en strategieën voor de gehele grootstedelijke regio te creëren) en coördinatiemechanismen (mechanismen die worden gebruikt voor de gezamenlijke uitvoering van grootstedelijke plannen, beleid en strategieën). Het raamwerk van metropolitane planning is geworteld in de ‘Theory of Transaction Cost Economics’ zoals onder andere ontwikkeld door Oliver Williamson. Het raamwerk bestaat uit de institutionele setting van de grootstedelijke regio, die in het algemeen wordt beschreven via drie benaderingen (regionalisme, lokalisme en nieuw regionalisme) en negen prototype-coördinatieregelingen (prototype A t / m I) van grootstedelijke planning. Een prototype vertegenwoordigt een bepaalde vorm van governance. Een bepaald prototype van grootstedelijke planning maakt gebruik van specifieke hoofdinstrumenten, of het nu gaat om administratieve controle voor hiërarchische vormen van governance (bijvoorbeeld regelgeving en formele procedures), stimulering en marktgeoriënteerde governance (inclusief geld, toekenning en erkenning), of gemengde instrumenten voor hybride vormen van bestuur. Voorbeeld A houdt bijvoorbeeld in dat grootstedelijke planning een soort masterplan gebruikt voor coördinatiecapaciteit en een formeel-continu coördinatiemechanisme. Prototype I heeft betrekking op een strategisch plan in combinatie met een informeel-discontinu mechanisme. Prototype A staat voor een sterk hiërarchische vorm van bestuur, terwijl prototype I marktgeoriënteerd bestuur voorstaat. Andere prototypen (B tot H) vertegenwoordigen verschillende hybride vormen van governance.

Hoofdstuk 3 bespreekt grootstedelijk transport en gerelateerde institutionele settings van de JMR. Deze studie gaat over de uitbreiding van *TransJakarta*, het Bus Rapid Transit (BRT) -systeem dat eigendom is van de provinciale overheid van Jakarta. Het idee achter de BRT was om files in Jakarta aan te pakken, het gebruik van individueel

transport te verminderen en een beter stadsvervoer mogelijk te maken. De provinciale overheid van Jakarta heeft TransJakarta ontwikkeld zodat inwoners van Jakarta gebruik kunnen maken van speciale bussen met speciale rijstroken. Deze speciale bussen en speciale rijstroken worden uitgebreid naar omliggende districten van Jakarta, ten behoeve van het forenzenverkeer. Verbeteringen door de provinciale overheid van Jakarta om de dienstverlening van TransJakarta aan de JMR uit te breiden, tonen een geprefereerde vorm van grootstedelijk bestuur aan. De analyse wijst op drie verbeteringen: (1) het zogenaamde *Megapolitan*-voorstel (2005-2007), met een regionalistische benadering, (2) het Ruimtelijke Plan voor de JMR (2008-2012), dat staat voor een nadruk op lokalisme, en (3) het versterken van interlokale bestuurlijke samenwerking, ondersteund door de centrale overheid (2012-nu), wat nieuw regionalisme impliceert.

Uit het onderzoek blijkt dat, hoewel het *Megapolitan*-voorstel, dat afhankelijk is van de oprichting van een grootstedelijke overheid, een sterkere effectiviteit belooft bij de ontwikkeling van TransJakarta, het werd verworpen door de gouverneur van West-Java, de gouverneur van Banten en uiteindelijk ook werd verworpen door de centrale overheid en het nationaal parlement. Het fundamentele idee van het *Megapolitan*-voorstel, zoals voorgesteld door de gouverneur van Jakarta, veroorzaakte aanzienlijke politieke spanningen, omdat het de macht van andere gouverneurs zou verminderen. Om deze metropolitane politieke spanning te minimaliseren, ontstond een voorstel om te werken op basis van het ruimtelijk plan van de JMR. Implementatie en ontwikkeling zou worden uitgevoerd door elke provinciale en lokale overheid. Deze tweede verbetering werd door de betrokken organisaties aanvaard en biedt een basis voor samenwerking tussen lokale overheden. Uit de analyse blijkt echter ook dat deze coördinatiepraktijk ineffectief bleek voor de verdere uitbreiding van TransJakarta. Een derde verbetering bleek effectiever. Interlokale overheidsamenwerking werd breder geaccepteerd door alle betrokken organisaties. Deze samenwerking slaagde vervolgens in de implementatie van TransJakarta. Het hoofdstuk concludeert dat in dit geval de effectieve institutionele setting van de JMR ligt in een samenwerking tussen lokale overheden, ondersteund door de centrale overheid.

Gebruik makend van het raamwerk van metropolitane planning uit Hoofdstuk 2, bespreekt Hoofdstuk 4 de coördinatie van grootstedelijke planning voor de casus van de dammen van Ciawi en Sukamahi. Het project is gevestigd in het regentschap van Bogor, dat werkt aan beleidslijnen van de provincie Jakarta om acute overstromingen te voorkomen. De besluitvorming om dit project te bouwen bestrijkt een periode van 13 jaar. De belangrijkste overeenkomst is dat de betrokken organisaties hun middelen delen om de bouw van de dammen mogelijk te maken. Het gaat om een intergemeentelijk samenwerkingsproject ondersteund door centrale overheden. De provinciale overheid van Jakarta zou hun fondsen delen voor de aankoop van grond voor de dammen. Het Ministerie van Openbare Werken zou geld beschikbaar maken voor de bouw van de dammen. De provinciale overheid van West-Java en het regentschap van Bogor helpen bij het proces van grondverwerving. Dit hoofdstuk laat zien dat de coördinatiecapaciteit voor grootstedelijke ruimtelijke ordening voor *Jabodetabekpunjur* formele voorschriften gebruikt om een masterplan op te stellen. De coördinatiemechanismen voor de implementatie van het grootstedelijke ruimtelijke plan van *Jabodetabekpunjur* zijn vooral informeel en discontinue van aard. Deze mechanismen hebben de neiging prikkels in te zetten om collectieve beslissingen te stimuleren. Bovendien leidden coördinatie-inspanningen tot regelgeving die alleen op elke betrokken organisatie apart van toepassing zou zijn. Collectieve inspanningen werden aangemoedigd door een reeks prikkels, zowel monetair als niet-monetair. Deze coördinatieregeling kan daarom worden geclassificeerd als prototype C van grootstedelijke planning. Prototype C betekent dat een masterplan voor coördinatie wordt gebruikt in combinatie met een informeel-discontinu interactiemechanisme. Wegens gebrek aan regulering liepen de coördinatieactiviteiten om de dammen te bouwen een aantal moeilijkheden en vertraging op. Het proces duurde bijna twee jaar. In dit geval hebben onzekerheden bijgedragen aan transactiekosten. Om de effectiviteit te vergroten, heeft de centrale overheid in 2016 de toegewezen middelen overgenomen van Jakarta. Na die interventie heeft de centrale overheid alle kosten voor de bouw van de dammen gefinancierd. Het hoofdstuk wijst erop dat met name de onzekerheid over de eigendomsstatus van activa en de overdracht van budgetten aanzienlijk is verminderd. Deze actie reduceerde de onzekerheid en verbeterde de effectiviteit van coördinatie. De tweede coördinatieregeling betreft prototype B.

Prototype B gaat ervan uit dat de nationale overheid een centrale rol speelt voor metropolitane planning in de JMR. Een dergelijke cruciale rol impliceert dat de centrale overheid een hoge financiële capaciteit zou moeten hebben. Opgemerkt moet worden dat deze situatie het potentieel heeft om in de toekomst onzekerheid te creëren, aangezien de centrale overheid financiële beperkingen heeft. Een ander probleem van prototype B komt ook naar voren. Een beroep op een soort masterplan voor het grootstedelijk gebied van *Jabodetabekpunjur* heeft ook zwakke punten vanwege versnippering. Hoofdstuk 5 stelt de vraag welk prototype van de grootstedelijke planning mogelijk beter is dan prototype B. Het hoofdstuk stelt prototype E voor als een coördinatieregeling van grootstedelijke planning in de toekomst voor JMR. Prototype E betekent dat coördinatieregelingen afhankelijk zijn van een soort strategisch plan, samen met informeel-continue mechanismen. Prototype E vraagt de centrale overheid om een mix van formele regulering en prikkels te ontwikkelen om daarmee fragmentatie te verminderen en het aanpassingsvermogen bij het formuleren van het grootstedelijk ruimtelijk plan te vergroten. Prototype E vraagt de centrale overheid ook om nieuwe regels uit te vaardigen om de eigendomsstatus van activa te behouden voor gezamenlijke projecten of andere collectieve acties. Dit zal de samenwerking tussen lokale overheden versterken en omvat tevens coproductie met particuliere, niet-gouvernementele organisaties, en burgers.

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Preface

First and foremost, I offer my grateful to Allah Almighty who give me an opportunity and ability to accomplish this thesis.

Study to obtain a doctoral degree is like a long journey. It needs spirit, patience, pray, knowledge and wisdom. It is like marathon that needs endurance, but sometimes, it is like sprint that requires speed. Facing to this situation, I would like to express my gratitude to some wonderful people who supported me during my study. I would like to great thank to Professor Johan Woltjer, my promoter and main supervisor. His patience to guide me is a crucial factor to make me able to finish this study. His deep knowledge on planning and governance and academic experiences guided me to develop strong arguments carefully. He also gave an opportunity for me to supervise several master theses. I was enthusiast and enjoy receiving this opportunity. As a planner and a government employee, this experience was precious. I also would like to thank to Professor Ronald Holzhacker, my second supervisor, who gave me big support and spirit to finish this thesis. He provided several opportunities for me to present my research in conferences. Thanks also to Dr. Wendy Guan Zhen Tan, my daily supervisor, who challenged me to demonstrate more detail arguments in my thesis. She also assisted me for several technical matters.

Here, let me also thank to several professor in previous almamaters who gave attention to my study. Special thank to Professor Tommy Firman (ITB), who through his papers and several discussions, gave me inspirations. He also always gave high attention and encouraged me to finish my thesis immediately. Thanks also to Dr. Heru Poerboyo (ITB), Professor Boy Kombaitan (ITB), Dr. Miming Mihardja (ITB), Dr. Suhirman (ITB), Professor Bambang Hari Wibisono (UGM), Professor (Bobby) Bakti Setiawan (UGM), Dr. Suryanto (UGM), Dr. Hendrie Adji Kuworo (UGM) and Dr. Retno Widodo (UGM).

I also would like to thank very much to some people in the Indonesian Ministry of National Development Planning/the Indonesian National Development Planning Agency (Bappenas): Bapak Max H. Pohan, Bapak Deddy Koespramoedyo (late), Bapak Himawan Hariyoga, Bapak Budhi Santoso, Bapak Wariki Sutikno and Bapak Aryawan Soetiarso Poetro. Thanks also to Bapak Slamet Soedarsono, Bapak Slamet Seno Adjie, Bapak Imron Bulkin, Bapak Rudy S. Prawiradinata, Bapak Arifin Rudyanto, Bapak Taufik Hanafi, Bapak Oktorialdi, Bapak Oswar Mungkasa, Bapak Budi Hidayat, Ibu Asti, Bapak Guspika, Ibu Nur Hygiawati, Bapak Thohir Affandi, Bapak Teguh, Bapak Uke M. Hussein, Bapak Sumedi Andono Mulyo, Bapak Velix Wanggai and Ibu Virgiyanti. Thanks also for all my colleagues in the Directorate of Regional Autonomy: Mas Wedar H. Adjie, Asep Saepudin, Muhammad Roudo, Alen Ermanita, Daryll Ichwan Akmal, Ervan Arumansyah, Sudira, Alfia Oktivalerina, Rizqi Yuwanita Habibah, Prima Sari Anungputri, Jayadi, Diantha Arafia, Ary Dodit, Perdana Nusawan, Dwitami Puspaningrum, Dio Anggara, Bima Satria, Uul, Sri Hartati, Yuniur Rumanige, Via Oktaviani, Luthfi, Aqsa and M. Zaenudin.

Special thanks to my beloved family: my wife, Tina N.S, and my children: Muhammad Rayyan Hidayat and Mayyasah Nurmayanti Hidayat. They accompanied and gave big support, attention and understanding during my hard time of study. Thank you very much, I love you all. I also deep thank to my father (Bapak Syamsuri H.), my mother

(Ibu Ani S. U. H) and my parents in law (Bapak M. Soekarno (late) and Ibu Nur). They always gave me pray. A special pray to my father in law who passed away when I and family were in Groningen, two months before I took a field work in 2014. Al Fatihah. Let me also thank to my brothers and sister: Doddy and family, Novvy and family and Yulia, my brothers and sisters in law: Mbak Deniek and family, Mbak Dessy and family, Mbak Tika and family, and to all cousins, nephews, uncles and aunties: Om Budi and Tante Noi, Eyang Soetomo's big family, Tante Tanti and family, Om Heru and Tante Rini, Pak Kus and Bule Kus, and Eyang Syahir's big family. Thank you all for your supports and attention.

I would like also thank to supervisors and all colleagues of SInGA (SPIRIT Indonesia-Groningen) research group: Prof. Rafael Wittek, Prof. Niels Hermes, Prof. Joost Herman, Prof. Jaap de Wilde, Dr. Liesbet Heyse, Dr. Tatang Muttaqin, Dr. Laksmi Kusumawati, Dr. Kuswanto, Dr. Suwatin Miharti, Annisa Paramita Wiharani, Nureni Wijayati and Dr. Mala Sondang. Thank you very much for togetherness, support and attention. I also thank to other members of Groningen Research Centre for Southeast Asia and ASEAN (SEA ASEAN): Tri Efriandi, Titissari Rumbogo, Isti Hidayati, Petrus Farneubun, Stephanie Pasaribu and Stanati Netipatalachoochote. Thank you to professors and all colleagues in the Faculty of Spatial Sciences, University of Groningen: Dr. Ferry van Kahnn, Dr. Ward Rauws, Dr. Yang Zhang, Umma Pupphacai, Dr. Ruiqian Li, Dr. Marije, Muhammad Saleh, Jing Wu, Dr. Fikri Zul Fahmi, Dr. Paramita Rahayu, Dr. Tim Busscher, Jasper Meekes, Dr. Jasper Heslinga, Steven Forrest, Dr. Niels Heeres, Dr. Brita, Dr. Melanie, Dr. Jessica, Mufty, Dr. Chris, Dr. Ellen, Dr. Femke, Dr. Terry van Dijk, Dr. Margo van den Brink, Sarah, Alida Meerburg, Diane Bruinewoud, Tineke Dijkman. Thanks also to Prof. Clara Mulder, Prof. Oscar Couwenberg (The Dean), Prof. Inge Hutter, Prof. Claudia Yamu, Prof. George de Kam and Prof. Gert de Roo.

Last, but not least, I would like to thank to some wonderful friends in Groningen: Mas Adhi Wibawa, Mbak Sista and family; Mas Fadjar, Mita and family; Mas Hengki, Mbak Erna and family; Mas Yayok, Mbak Awalia and family; Mas Archi, Bu Marie and family; Pak Dakir, Bu Sumini and family; Om Rudy Tromp and Tante Silvi; Om Bas and Tante Panca; Pak Asmoro, Bu Rini and family; Mas Rully, Mbak Intan and family; Mas Fajar, Mbak Monik and family; Mbak Atika, Mas Salim and family; Mas Hedar and Mbak Icha; Mbak Arini and Mas Ferry; Mbak Ari and Pak Herman; Mas Sofyan, Mas Yudhi and family, Mbak Eva, Mbak Ratri, Aldi, Fadiyah, Mas Fundhy, Mbak Inayah, Mas Ronny, Mbak Irawati, Mbak Nur and Mas Zaki and family.

Finally, thank you very much to my paranymphs: Tri Efriandi and Koen V. Bandsma. Thank you guys help preparing my defence.

Chapter 1

Chapter 1

Understanding Effective Coordination for Metropolitan Planning in the Jakarta Metropolitan Region

1.1 Introduction

There has been increasing acknowledgement internationally that urban regions such as the Jakarta Metropolitan Region (JMR) require an institutional arrangement that prioritizes metropolitan coordination and planning so that it can effectively solve crucial regional problems such as traffic jams and floods. Metropolitan planning needs the support of surrounding districts, as well as the central government (Giebels, 1996; Forbes, 2005; Steinberg, 2007; Silver, 2008, 2014; Salim and Firman, 2011; Rakodi and Firman, 2012; Sagala, et al, 2013; Ward, et al, 2013; Rustiadi, et al, 2015; Firman, 2014). Without effective coordination, the JMR will continue to suffer in terms of coherent transport flows and appropriate water coordination, which will have a considerable impact on its citizens' overall quality of life and the regional economy. Effective coordination for metropolitan planning in the JMR is required, since local governments (the provinces, municipalities and regencies), constituent members of the JMR, are fragmented. They have their own local plans, policies or strategies, which emphasise the development of each territory, independently of one another. However, they demand that a reduction in negative externalities results from local plans, policies or strategies produced by other local governments.

Effective coordination is also needed in order to accommodate regional problems throughout the multitude of local plans, policies or strategies that local governments produce. Moreover, effective coordination is required to encourage and attract local governments to participate in solving collective problems facing JMR, in a way that minimises free-riding. Transport and water are typical examples of regional and collective issues as traffic and water-flows cross local administrative areas. Policy-making dilemmas such as dealing with negative environmental externalities and free riding, therefore, should be addressed through arrangements for inter-local coordination and integrated authority (Voogd and Woltjer, 2007). However, urban

regions like the JMR typically lack capacity to monitor and enforce policies, plans or strategies and also lack financial capacity to develop metropolitan regional infrastructures and services that address floods and traffic. When the central government faces constraints, central government and the constituents of the JMR need to develop effective coordination so that metropolitan planning can take place.

The need for the development of effective coordination for metropolitan planning in the JMR is further bolstered by the long time required to reach decisions using existing approaches (Simanjuntak, et al, 2012), delays in building infrastructures (Akmalah and Grigg, 2011; Simanjuntak, et al, 2012) and uncontrolled land-use change, particularly in conservation areas (Firman, 2014; Rustiadi, et al, 2015). The JMR does not have a metropolitan regional government (Firman, 2008, 2014); as mentioned previously, it is fragmented over the province of Jakarta and nine districts, which are formally coordinated by two other provinces (Firman, 2008, 2014; see also Appendix 1.1). Coordination among them is facilitated by the *BKSP Jabodetabekjur* (a regional agency of JMR), which emphasises inter-local-government cooperation (Firman and Dharmapatni, 1994; Firman, 2008). The name *Jabodetabekjur* is an abbreviation of the name of the JMR's constituents: Jakarta, Bogor, Depok, Tangerang, Bekasi and Cianjur. Inter-local government cooperation in the JMR is framed formally through the Law of Local Polity and its derivative regulations. Even though the *BKSP Jabodetabekjur* is accepted politically by the JMR's constituents, it is perceived as being ineffective when it comes to implementing a metropolitan regional plan, whether under the old policy of decentralization and local autonomy, which emphasised the role of central government (Firman and Dharmapatni, 1994), or under the new policy of decentralization and local autonomy, which emphasises the role of local and provincial governments (Firman, 2008, 2014).

The coordination problems faced by JMR imply the need for additional efforts to accelerate and to create a coherent set of plans, policies and strategies, such as the need for more meetings, more information, more monitoring and more enforcement. Extra time, extra effort and potentially also extra costs are needed to address the coordination for metropolitan planning in JMR. The extra time and effort it takes to act point towards the existence of transaction costs (Buitelaar, 2004), an economic friction that has different costs under different governance structures (Williamson,

1985, 1996). There are essentially three generic governance structures, or forms of governance: hierarchies (e.g. regulations, commands), markets (e.g. incentives, networks) and hybrid forms of governance (e.g. mixed regulations/commands and incentives/networks). Transaction cost can be reduced by shifting governance structures (Williamson, 1996, 1999). Based on this understanding, extra time and extra effort spent by the organisations involved in coordination for metropolitan planning can be reduced with a shift in governance structure. In the case of the JMR, it took 13 years to decide collectively to build the project of the Ciawi dam and the Sukamahi dam in order to mitigate the impact of floods (Kristanti, 2013) and 24 years to build a Mass Rapid Transit in order to reduce traffic jams (Asril, 2015). These time frames may have been reduced through a shift to a form of governance that emphasises multi-organisation coordination for metropolitan planning.

This PhD research aims to uncover the institutional arrangement most appropriate for establishing effective coordination for metropolitan planning in the JMR. An appropriate form of governance for metropolitan planning in the JMR perhaps can establish more coherent policies, plans or strategies for the entire JMR region, and for the organisations involved, by reducing negative externalities, enhancing decision-making processes and ensuring implementation in less time and with less effort. To identify an appropriate form of governance for metropolitan planning in the JMR, this research uses an approach to understanding forms of governance that is rooted in the Theory of Transaction Cost Economics (TCE) (Williamson, 1985, 1991, 1996, 1999). To operationalize this theory, in order to identify which form of governance is more appropriate for implementation in the JMR, the metropolitan regional transportation and the case of the project of the Ciawi dam and Sukamahi dam are used as cases. By focusing on these two cases, it is hoped that the most appropriate form of governance structure for metropolitan planning in the JMR can be uncovered, and the role of transaction-cost thinking illustrated.

1.2 Research questions

This research is guided by one main research question:

“How can effective coordination for metropolitan planning in the JMR be explained and its effectiveness improved?”

This main research question is operationalized through four sub-research questions, which are elaborated in the sections below.

1.2.1 The form of governance and its dynamic shifts for metropolitan planning

We have seen that negative externalities and long time frames exist for organisations involved in the JMR. This indicates that high transaction costs exist. To address this, there needs to be a shift in the form of governance used in coordination arrangements in the JMR so that it becomes more appropriate. Theoretically, transaction costs exist in every form of governance (e.g. Williamson, 1996). The organisations involved search for and establish an appropriate form of governance in order to minimise transaction costs, which implies that they change the form of governance dynamically. However, some authors reveal various coordination arrangements for metropolitan planning and changes, such as Alexander (2002), Salet, et al. (2010) and Xu and Yeh (2011). On top of this, a number of authors have contributed to the planning literature by discussing transaction costs and forms of governance (for example, Alexander, 1992, 2001; Lai, 2005; Webster, 1998, 2005, 2008; Buitelaar, 2004; Moulaert and Mehmood, 2009). Despite this, we lack clear and comprehensive understanding of how forms of governance are applied to metropolitan planning and how dynamic shifts can ensure and enhance effective coordination in metropolitan planning. We also lack understanding of the sufficient level of support required to establish a particular form of governance for metropolitan planning.

To fulfil its aims of uncovering an appropriate form of governance for metropolitan planning in the JMR, this research needs a framework that can account for whether one form of governance is more appropriate than another. McCarthy (2011) shows that organisations involved find it relatively easy to *develop* a metropolitan regional plan, but they much harder to implement it. So, perhaps it is the case that metropolitan planning has the number elements, which serve to influence how the organisations involved develop a commitment to metropolitan planning and how they address collective problems. These elements may in turn affect the type of plan that is adopted

by the organisations involved and how the plan is collectively implemented. It is assumed that each element involves a different form of governance and shift from one form of governance to another. Based on those three considerations (i.e. which form of governance is more appropriate, elements involved in metropolitan planning and dynamic shifts in forms of governance guiding coordination for metropolitan planning), this research proposes the first sub-research question:

“What forms of governance are used and what shifts in their application are evident in metropolitan planning?”

1.2.2 The preference for a metropolitan governance approach to analyse the JMR

Williamson (1999) shows that for a specific form of governance to be used by organisations involved, its acceptance is required. In the context of metropolitan planning, this acceptance is realized through their particular preference for metropolitan governance. Metropolitan governance may be discussed through three academic debates: Localism, Regionalism and New Regionalism (Yaro and Ronderos, 2011; Xu and Yeh, 2011). The preference of organisations involved in metropolitan governance plays a crucial role in the implementation of specific forms of governance used in coordinated metropolitan planning (see, for example, Albrechts, et al, 2003 in the case of Hannover; Alexander, 2002, 2006 in the case of the Amsterdam Metropolitan Region; Cotugno and Seltzer, 2009 in the case of metropolitan Portland; O’Leary, 1987 in the case of the Greater London). With these three academic debates in mind, to understand the appropriate form of governance in the context of metropolitan planning in the JMR, this research needs to first uncover how organisations involved accept particular coordination arrangements. This acceptance is identified through organisations’ preferred approach to the governing of JMR. To identify this preference, this research proposes a second sub-research question:

“What is organisations’ preferred approach to the governing of JMR in the context of coordinated metropolitan planning?”

1.2.3 Coordinating capacity of metropolitan plans in the JMR

One of the main tasks of metropolitan planning is to coordinate the regional policies, plans or strategies that shape the metropolitan region (Alexander, 2002). This coordination involves a number of organisations, each of which have their own policies, plans or strategies, each of which may be different from one another. Here, the crucial issue is how those plans, policies or strategies create and accommodate regional perspectives and are coherent with one another and how metropolitan plans, policies or strategies can be accommodated into local plans, policies or strategies.

To create coherent plans, policies or strategies for the entire metropolitan region, the metropolitan plan should have the capacity to coordinate other plans, policies or strategies. Here, the coordination capacity of a plan has resonance with what Healey (2006) refers to as the imaginative power of strategic spatial planning, or the sense that a plan should have the capacity to travel and to be translated into others. With reference to this research, the coordination capacity of a plan is identified by recognizing which form of governance is used to connect the way that particular issues, such as traffic jams and floods, are managed in the metropolitan spatial plan of the JMR and in local spatial plans. With this in mind, we therefore pose a third -sub research question:

“How can the coordination capacity of a metropolitan plan in the JMR be explained with reference to the form of governance adopted?”

1.2.4 The coordination mechanism used to develop regional infrastructure projects in the JMR

Another important task for metropolitan planning is to coordinate the implementation of metropolitan plans, policies or strategies to shape the metropolitan region (Alexander, 2002). This is often recognized by planners as a black box, wherein a plan can be cancelled or postponed (Albrechts, 2006). When a metropolitan plan is

developed, it cannot always be implemented (Abbott, 2005, 2009). Implementation is a crucial issue in metropolitan planning, given that many metropolitan regions have difficulties implementing metropolitan plans, policies or strategies (see for example Balducci, 2003; McCarthy, 2011). Successful implementation involves a number of organisations, each of whom must identify what coordination mechanisms can be used and the most appropriate form of governance to use.

With that in mind, this PhD research seeks to answer a fourth-sub research question:

“How can coordination mechanisms used for developing JMR regional infrastructure projects, be explained with reference to forms of governance?”

1.3 Research contributions

This research is expected to contribute both scientifically and socially.

1.3.1 Scientific contribution

This research contributes scientifically in three ways. The first scientific contribution is recognition that institutional arrangements for metropolitan planning adopted by metropolitan regions are not only “one size fits all”, but also shift dynamically. This means that metropolitan region may have a different institutional arrangement from another and that they may shift over time. This research creates a framework that can systematically identify these dynamic shifts in institutional arrangements for metropolitan planning.

The second scientific contribution is to provide a framework to understand the form of governance used in metropolitan planning and its dynamic shifts. The framework is developed through a literature review, which identifies the elements of metropolitan planning and forms of governance used therein. The framework is developed by interpreting forms of governance and their main instruments. It is rooted in the theory of Transaction Cost Economics (developed by Williamson, 1985, 1996). It is hoped that this framework can be used (a) to analyse the particular form of governance used in

coordination arrangements directed at metropolitan planning (i.e. plan making coordination and plan implementation coordination) and the main instruments used, (b) to analyse dynamic shifts in coordination arrangements directed at metropolitan planning, and (c) to analyse the most appropriate instruments to enhance effective coordination for metropolitan planning.

The third scientific contribution is to develop the coordination mechanism concept, which explains how multiple organisations collectively use certain mechanisms to coordinate the implementation of a metropolitan plans, policies or strategies. As mentioned previously, much of the planning literature discusses the difficulties involved in implementing a metropolitan plan (for example McCarthy, 2011; Albrechts, 2006). With this in mind, this concept is designed to aid understanding of the stages required for project implementation within the context of metropolitan planning and to aid analysis of the form of governance used in each stage.

1.3.2 Social contribution

For a practical point of view, this research is designed to contribute socially. It does so in four ways. The first is the identification of coordination problems involved with metropolitan planning in the JMR resulting from fragmentation, demand for adaptation and lack of regulations. These problems generate difficulties when creating coherent plans, policies and strategies and when implementing them. Here, coordination problems are identified as organisational uncertainties. This research highlights organisational uncertainties that can perhaps contribute to the formulation of instruments that are more effective in reducing transaction costs.

The second is the formulation of a number of policy recommendations that can be instituted alongside current national-level policies. Current national policies covering Indonesian metropolitan regions are laid out mainly in the Indonesian National Medium-Term Development Plan 2015-2019 (Presidential Decree No. 2 of 2015), the Metropolitan Spatial Plan of the *Jabodetabekpunjur* (Presidential Decree No. 54 of 2008), the National Spatial Plan (the Government Regulation No. 13 of 2017) and the Law of Local Polity (the Law No. 23 of 2014).

This research can be used by policy makers and decision makers, as well as planners and bureaucrats, to enhance effective coordination in the JMR and other Indonesian metropolitan regions. Due to the demand to create coherent plans, policies and strategies for the JMR and to accelerate implementation of these plans, policies or strategies, the policy recommendations laid out in this research will encourage central government and constituents of the JMR to use the metropolitan spatial plan as a formal platform to guide collective decisions for the JMR. This approach uses the imaginative power of metropolitan planning (as introduced by Healey, 2006) to govern the JMR without integrating the constituents of the JMR horizontally and politically. Strong vision and ideas offered in a metropolitan planning can be adopted and accommodated in other plans, policies or strategies. These policy recommendations also encourage them to use both regulations and incentives, as well to attract collaboration involving a broader range of participants, such as private companies, non-governmental organisations and citizens, using arrangements such as networking or co-production. These policy recommendations also encourage the central government to issue new regulations that support resource sharing between central, provincial and local governments. Policy recommendations that seek to improve existing metropolitan planning are expected to enhance effective coordination in the JMR, without changing the regional political configuration, by relying on the new policy of decentralization and local autonomy and inter-local government cooperation, supported by the central government and private entities.

The third contribution is to provide a framework for the design of appropriate institutions directed at metropolitan planning. Metropolitan planning covers the institutional setting of the metropolitan region (i.e. metropolitan governance) and coordination arrangements used in metropolitan planning. Thus, the framework can be used to create or to improve metropolitan planning. It has the potential to be applied not only in the JMR or other Indonesian metropolitan regions, but also in other metropolitan regions in ASEAN member-states, middle-income countries, European countries or in other parts in the world.

The fourth social contribution is to provide another perspective that encourages the government to involve private entities and non-government organisations, including citizens, in the planning process for the entire JMR and to engage in co-

production. With this in mind, this research strongly recommends that the metropolitan spatial plan should be more strongly developed. This will give it the necessary coordination capacity to address fragmentation and adaptation, because it will act as a master-strategic plan. This type of master-strategic plan is expected to address fragmentation using administrative control instruments (such as through regulation and sanction) and to manage adaptation using incentive instruments (such as through fiscal compensation, fiscal reward or non-monetary incentive). Incentive instruments are designed to be more flexible and adaptable to changes. They are also expected to attract more private sector actors, who have contributed to building industrial and housing areas, new cities, industrial districts and have instituted a new trend of Transit-Oriented Development (TOD).

When effective coordination for metropolitan planning in the JMR increases, metropolitan regional transportation can be significantly developed. Bus Rapid Transit and other public mass transportation can be developed so that one point can be connected to another in a way that does not exclude any one territory of provincial or local government. Citizens benefit from this in a number of ways. For example, citizens can enhance their mobility, since traffic jams are reduced and metropolitan regional public mass transportation are provided. When effective coordination for metropolitan planning in the JMR escalates, acute floods in Jakarta and its surrounding districts can be reduced drastically. Flood control measurements can be constructed on a bigger scale and with faster completion times. The ministry of public works and constituents of the JMR can also share their resources more smoothly. Citizens will therefore experience fewer floods, meaning their daily activities are interrupted less frequently and the risk to their lives and livelihood is diminished. Thus, this research seeks to impact upon citizens' quality of life.

1.4 Research methodology

To answer the research questions, this PhD research applies a qualitative methodology. Two methods are used: a literature review and a case study. Prior to describing those two methods, this section describes the nature of research design.

1.4.1 Research design

This PhD research is divided into two important parts:

1. To develop a framework of metropolitan planning. The framework is developed first to identify institutional arrangements of metropolitan planning and to identify their dynamic shifts. Second, the framework constructed is used to identify existing coordination arrangements and to suggest appropriate coordination arrangements that can make metropolitan planning in the JMR more effective. The framework will be designed to provide options that planners, policymakers or politicians can use to guide improvements. This is presented in Chapter 2.
2. To deploy this framework, this research relies upon two case studies:
 - i. To identify a preferred institutional setting that highlights metropolitan governance in the JMR. This case study involves the analysis of regional public transportation development and coordination difficulties. This is discussed in Chapter 3.
 - ii. To identify a form of governance and coordination difficulties associated with coordination arrangements directed at metropolitan planning in the JMR. This case study involves the analysis of coordination between organisations involved in linking the metropolitan spatial plan to local spatial plans in order to mitigate acute floods in Jakarta, and coordination between the organisations involved in the construction of two dams upstream of Jakarta. This is discussed in Chapter 4.

The fourth chapter merges the third and the fourth research questions. The framework developed on the basis of the literature review, presented in Chapter 2, is expect to support the generalization of the cases studies discussed in Chapter 3 and Chapter 4.

For reference, the overall research design underpinning this PhD research is presented in Figure 1.1.

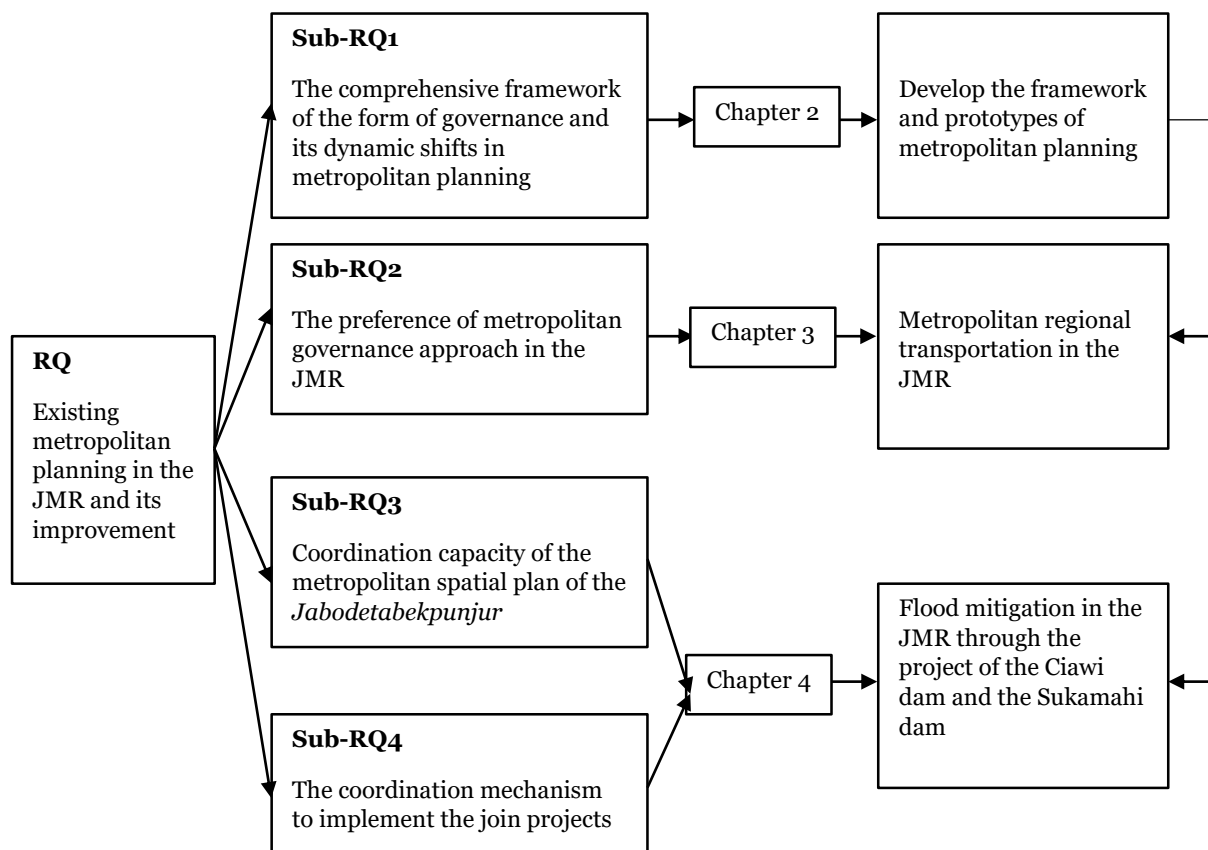


Figure 1.1
Research Design

1.4.2 The literature review

The literature review is mainly conducted in order to develop a comprehensive and systematic framework of metropolitan planning. This framework is based on the idea of different forms of governance. This is presented in Chapter 2. Inspired by a new institutional economic perspective (Williamson, 1985, 1996, 1998), the framework consists of two arenas. The first involves the institutional setting of the metropolitan region (i.e. metropolitan governance). The second consists of coordination arrangements of the organisations involved in the development of a coherent strategy that links metropolitan and local plans and which coordinates the implementation of regional infrastructures. The literature review is aligned with these two arenas. The urban politics and governance literature is reviewed to expand upon the first arena. The planning and urban development literature is reviewed to expand upon the second. Even though there are three academic debates on metropolitan governance,

findings concerning the first arena are developed in a more general way, where findings concerning the second are developed in line with three generic forms of governance.

Relevant literature was found through a search of online catalogues, mainly Smartcat (a search engine of university digital and physical resources, as well as those of other libraries worldwide; <https://www.rug.nl/library/smartcat/>), using a number of keywords, such as: metropolitan, metropolitan planning, effective coordination, governance, transaction cost, implementation, master plan, strategic plan and spatial plan.

1.4.3 The case study

As mentioned above, this research identifies social phenomena underpinning metropolitan planning to obtain effective coordination for metropolitan planning in the JMR through a new institutional economic perspective. The new institutional economic perspective argues that institutions affect human behaviour when engaging in economic activities (Hodgson in Hausman, 2008) and institutions are created to reduce transaction costs and risk (Menard and Shirley, 2008).

To understand metropolitan planning in the JMR, this research relies upon case studies. The case study is a suitable method for this research, since case studies provide an opportunity for the researcher to connect literature and contemporary events (Gerring, 2004; Yin, 2014). Work that connects the JMR to the metropolitan planning literature is limited, meaning that the case study method can assist our understanding.

With that in mind, this research adopts an embedded case study design (Yin, 2014, p. 50-51) in order to identify institutional arrangements underpinning metropolitan planning in the JMR in two cases. The embedded case studies design used are first, regional public transportation development, to identify existing and appropriate institutional setting (i.e. metropolitan governance) in the JMR (see Chapter 3), and second, the case of flood mitigation, to identify existing and appropriate coordination arrangements underpinning metropolitan planning in the JMR (see Chapter 4). According to Yin (2014), these two cases share a similar context – the institutional

arrangements underpinning metropolitan planning in JMR. Regional problems, represented by the two case studies, are used to demonstrate that coordination difficulties exist and to identify possible improvements for coordination.

These regional problems were selected for a number of reasons:

1. Regional transportation and flood mitigation are crucial and acute issues for the JMR.
2. Regional transportation development and flood mitigation involves the participation of a number of organisations in the JMR covering coordination between the core city (Jakarta) and peri-urban (surrounded districts of Jakarta) and coordination between downstream and upstream areas.
3. Because they involve a number of organisations, these two cases can be used to analyse metropolitan planning in the JMR. Collective actions are important issues in addressing regional problems in metropolitan regions (Feiock, 2007, 2013).

Data for those two cases were collected mainly from the internet and included online newspapers, policy documents, regulations, previous studies and in-depth interviews. This research uses a triangulation method to construct a comprehensive picture of each case and also to confirm the accuracy of collected data (Moran-Ellis, et al, 2006; Yin, 2014). Only those that were perceived to have the credibility and who were judged to be able to provide accurate information were selected. Data collected from online newspapers was classified into simple groups. For example, in the case of regional transportation, data were classified into two big groups: the first related to the issue of coordination arrangements underpinning metropolitan planning; the second related to coordination arrangements underpinning metropolitan planning, such as public services and criminal and labour issues. Then, the first group was divided into three further sub-groups, related to Localism, such as the metropolitan spatial plans that rely on implementation by local government; Regionalism, such as the “Megapolitan” concept; and New Regionalism, related to inter-local government cooperation.

Semi-structured interviews were conducted in each case. For the first case, regional public transportation development, interviews are conducted to understand the development of an area extension of the Trans-Jakarta Bus Rapid Transit (TJ BRT) network from Jakarta's territory to its surrounding districts. Interviews were conducted with several people involved in or who were familiar with the development of the plan and from whom information could be sought. Interviewees were officers from the regional agency of the JMR (i.e. the BKSP *Jabodetabekjur*), the Department of Transportation and the local development planning agency, several local governments, the National Development Planning Agency and the Ministry of Transportation. For the second case, flood mitigation, interviews were conducted to understand the project of the Ciawi dam and the Sukamahi dam. Interviews were conducted to obtain data and information related to planning process uncertainties accompanying the projects. Interviewees were officers from the local governments (province and district), the BKSP *Jabodetabekjur*, the Ministry of Public Works, the Ministry of Home Affairs and the National Development Planning Agency. The researcher was also invited to attend a focus group discussion facilitated by the BKSP *Jabodetabekjur*, which focused on the preparation of the project of the Ciawi dam and the Sukamahi dam.

Qualitative data analysis was used. This research analysed triangulated data using several steps: simple coding, ordering events in chronological sequence, classifying ordered events based on the literature and analysing events according to the framework constructed.

1.5 Structure of the dissertation

This dissertation is ordered into the following chapters:

1. Chapter 2, "Developing A Framework to Analyse Effective Coordination for Metropolitan Planning and Its Dynamic Shifts"

This chapter develops a framework to analyse and to improve metropolitan planning through identifying forms of governance. The framework is rooted in the theory of Transaction Cost Economics (Williamson, 1996) and implicates

two arenas. The first focuses on the institutional setting of the metropolitan region (metropolitan governance) and the second focuses on the form of governance (governance structure) underlying various coordination efforts in metropolitan planning. The framework can be applied to analysis of metropolitan planning, whether for scientific and practical purposes. The framework promises to identify various coordination efforts in metropolitan planning, not only for the JMR, but also other metropolitan regions in the world.

2. Chapter 3, “Metropolitan Governance and Institutional Design: Transportation in the Jakarta Metropolitan Region”

This chapter discusses the institutional setting of the JMR by identifying the preferences of the organisations involved in its governance. This chapter uses the case of Bus Rapid Transit development as an extension of the metropolitan transport system in the JMR. Preferences are identified in line with three approaches to metropolitan governance: localism, regionalism and new regionalism.

3. Chapter 4, “Coordination Arrangements of Metropolitan Planning to Mitigate Floods in the Jakarta Metropolitan Region: the Case of the project of the Ciawi Dam and the Sukamahi Dam”

This chapter discusses coordination arrangements underlying metropolitan planning in the JMR, identifying particular forms of governance used to develop metropolitan spatial plans and their relation to local spatial plans and the development of the dams. This chapter also discusses coordination difficulties, which caused delays and cost overruns. Employing the comprehensive framework developed in Chapter 2, this chapter identifies and describes instruments applied and identifies the existing forms of governance and coordination problems that occurred.

4. Chapter 5, “Conclusion and Recommendations”

This chapter summarises the findings from previous chapters and provides a number of recommendations, particularly those that seek to improve metropolitan planning in the JMR. Recommendations are proposed by

applying the comprehensive framework developed in Chapter 2 and are based on the findings from Chapters 3 and 4. This research proposes a shift in the form of governance deployed in existing coordination arrangements in order to minimise the time and effort expended, as identified in Chapter 4. Reducing time and effort will enhance effective coordination for metropolitan planning. This chapter also outlines future research agendas that can use the framework developed in Chapter 2.

Chapter 2

CHAPTER 2

Developing a Framework to Analyse the Effective Coordination for Metropolitan Planning and Its Dynamic Shifts

2.1 Introduction

Coordination in the metropolitan region is recognized as difficult and complex (see for example, Oakerson and Parks, 1988; Neuman, 1996; Roberts, Thomas and Williams, 1999; Wheeler, 2000; Hamilton, Miller, Paytas, 2004; Salet, et al, 2003; Abbott, 2009; Feiock, 2004, 2007, Healey, 2004; Hults and van Monfort, 2007; Voogd and Woltjer, 2007; Miller and Lee, 2009; Salet and Woltjer, 2009; Xu and Yeh, 2011). Complex coordination is configured through various means and involves different organisations, who must coordinate horizontally and vertically, and who each have different capacities, strategies, territories and authorities. This coordination is difficult because the organisations involved have their own politics, institutional development and territories, which in general do not match one another (Wheeler, 2000; Healey, 2009; Salet and Woltjer, 2009). Those configurations imply the need to exert more effort, spend more and do so more frequently to, for example, gather information, bargain, monitor, or to create and implement forms of cooperation, engagement or other forms of coordination amongst organisations involved in the metropolitan region (Feiock, 2013). The organisations involved, including their superior authorities, need to create and to establish effective coordination arrangements in order to manage resource exchanges more smoothly, including the exchange of information, ideas and money. Therefore, the challenge is to identify the most effective coordination arrangements for metropolitan regions.

Coordination arrangements for metropolitan regions includes coordination to create a plan, a policy or a strategy for the entire metropolitan region that is coherent with local plans, policies or strategies and to safeguard, ensure and accelerate the implementation of those plans, policies or strategies through to project realization. The creation of a coherent plan, policy or strategy is important, since a metropolitan

region consists of two or more municipalities, towns or districts, each of which may have a different local plan, policy or strategy. A local plan, policy or strategy may generate negative externalities or NIMBY (Not In My Backyard) in another territory. Negative externalities can stimulate conflict or enhance competition amongst neighbouring authorities (Feiock, 2013). However, to create a coherent plan, policy or strategy for an entire metropolitan region is also not easy.

The organisations involved, or a superior authority, always shift their institutional arrangement to enable more appropriate metropolitan planning, such as in Greater London (see for examples O’Leary, 1987; Newman and Thornley, 1997; Rao, 2002) or the Amsterdam Metropolitan Area (see for example Alexander, 2002; Janssen-Jansen, 2011). Overall, there are various coordination arrangements for metropolitan planning in one metropolitan region, which shift dynamically over time and which are different for every other metropolitan region, such that there is “no one size fits all”. When metropolitan planning is not static, it becomes difficult to define effective coordination for metropolitan planning, given that effective coordination for metropolitan planning perhaps does not have a single definition. We need a comprehensive and systematic perspective to frame “no one size fits all” and dynamic shifts in metropolitan planning to identify appropriate and effective coordination for a particular metropolitan region at a particular time.

However, as explained in Chapter 1, we lack a comprehensive and systematic perspective on those coordination arrangements that aren’t “one size fits all” and which have different levels of political support, different rules or how they shift over time. We need a systematic and comprehensive perspective to assist planners, policymakers and politicians to empirically analyse metropolitan planning and how organisations coordinate effectively, what instruments are used to encourage effective coordination and what level of support is required to establish a particular level of coordination. By developing a systematic and comprehensive perspective, we can learn lessons learned about shifts in coordination arrangements for metropolitan planning, particularly when it comes to what instruments are created and applied and the strengths and weakness of those instruments. A systematic and comprehensive perspective is also required to provide alternatives for interested parties in order to see whether promising improvements can be implemented to enhance the

effectiveness of coordination. Coordination effectiveness is an important component of appropriate metropolitan planning. A comprehensive and systematic perspective is needed so that we can analyse and improve coordination in metropolitan planning.

This research draws inspiration from the New Institutional Economics perspective, particularly its discussions on forms of governance, which is rooted in the theory of Transaction Cost Economics (Williamson, 1985, 1991, 1996, 1998). This can be used to develop a frame to analyze “no one size fits all” approaches and dynamic shifts in coordination arrangement for metropolitan planning. The focus on forms of governance implies discussion on arrangements organisations must use to manage resource exchange more efficiently. The arrangement shifts dynamically, as organisations involved adapt in order to reduce emerging and increasing transaction costs. Here, efficient arrangements are a matter of the form of governance (governance structure) deployed. The form of governance and its dynamic shifts are relevant to various forms of coordination and their dynamic shifts in metropolitan planning. Thus, an approach that focuses on the form of governance is employed to develop a systematic and comprehensive framework to analyze metropolitan planning. Likewise, this approach is also mainly used in a meso-level analysis of institutional design in order to analyse the form of governance more appropriate to multi-organisation coordination (Alexander, 2006).

This chapter proposes a research question that is what forms of governance are used and what shifts in their application are evident in metropolitan planning? The aim of this chapter is to develop a systematic and comprehensive framework for specifying forms of metropolitan planning and to establish effective coordination. The framework developed will also encompass institutional developments in metropolitan regions. Here, institutional development is represented by specific instruments created and applied by the organisations or authorities involved to establish a particular form of governance and thus a particular coordination arrangement for metropolitan planning. It is expected that the framework will allow us to: (a) analyze “no one size fits all” approaches and dynamic shifts in coordination arrangements in metropolitan planning, (b) analyze instruments used in metropolitan planning practice, (c) guide prescriptions to improve effective coordination for metropolitan planning, and (d) generalize from the case studies.

2.2 Method

This research will involve a qualitative literature review. A literature review can be defined as:

“A written document that presents a logically argued case founded on a comprehensive understanding of the current state of knowledge about a topic of study. This case establishes a convincing thesis to answer the study’s question.”

(Machi and McEvoy, 2009, p. 4)

Onwuegbuzie et al. (2012) argue that there are two crucial elements to a literature review - analysing and interpreting selected literature in a formal manner. Here, to analyse is “to break down a whole into its components or constituent parts and then through reassembly of the parts, one comes to understand the integrity of the whole” (Schwandt, 2007, p. 6). Interpretation is “the act of clarifying, explicating, or explaining the meaning of some phenomenon” (Schwandt, 2007, p. 158). With this in mind, this chapter details five steps: (1) searching and analyzing relevant literature to identify effective coordination for metropolitan planning (see Section 2.2), (2) summarizing the literature (see Section 2.3), (3) reframing metropolitan planning in the context of a focus on governance (see Section 2.4), (4) developing a framework of metropolitan planning (see Section 2.5) and (5) validating that framework (see Section 2.6).

2.2.1 Searching relevant literature

The purpose of the initial search is to find relevant literature on effective coordination for metropolitan planning using Smartcat (a university search engine to search university libraries and other libraries worldwide and which includes both digital and physical resources). This first review focuses on relevant literature from the last 50 years, between 1963-2012. The first search showed that there were no publications specifically discussing this issue (using keywords: “metropolitan planning” AND “effective coordination”). To address this absence, the second search used keywords “metropolitan planning” OR “effective coordination”. The second search uncovered 1,102 articles. To reduce duplication and out of context literature, the abstracts of those

1,102 articles were reviewed and an additional 58 articles were subsequently chosen for further analysis (see Figure 2.1). From those 58 full-text articles, 38 additional references were found related to metropolitan governance, planning and spatial planning (see Figure 2.1). On that basis, this second review focused on a total of 96 articles, published over the last 60 years (1956-2015). Using a descriptive analysis (see Table 2.1, Table 2.2 and Table 2.3), this chapter found that effective coordination for metropolitan planning is not static (see particularly a descriptive analysis in Table 2.4).

With this in mind, this chapter extended the search for relevant literature for two additional reasons (see Figure 2.1): (1) to reframe the metropolitan planning through the lens of governance (see Section 2.4) and (2) to validate the framework developed (see Section 2.6 and the Appendixes 2.2, 2.3 and 2.4).

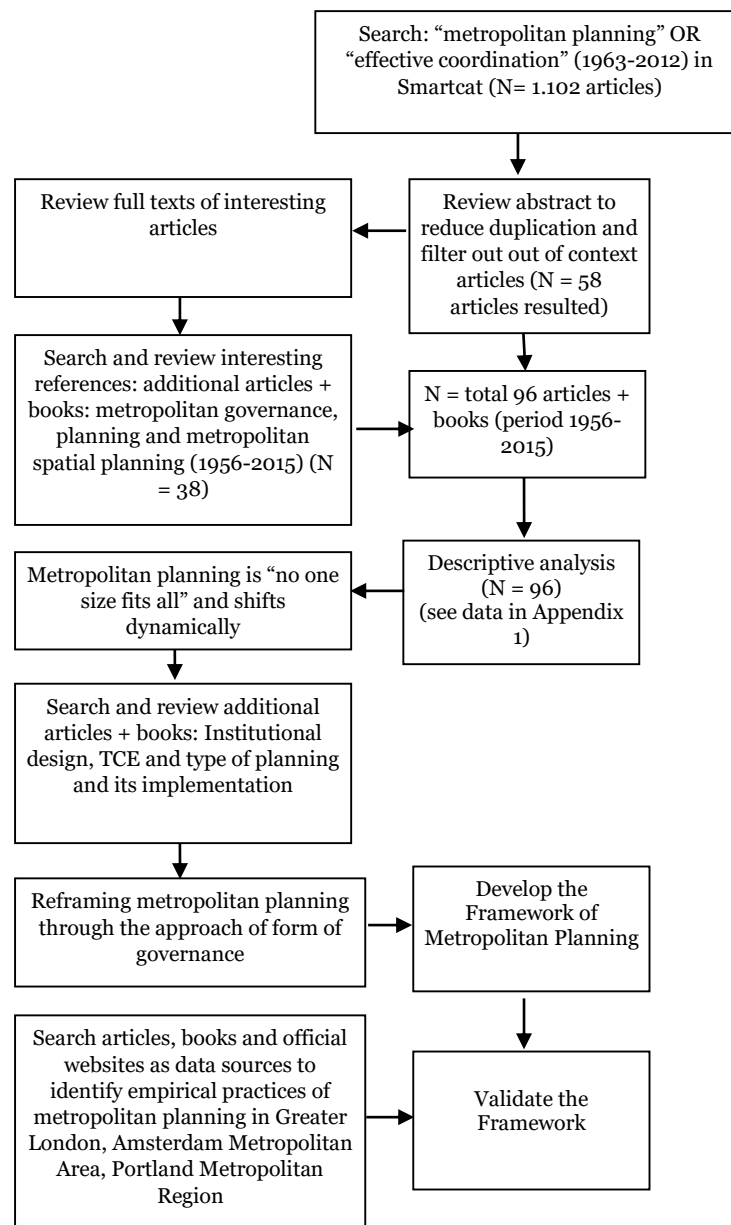


Figure 2.1

Method to review the literature to develop a Framework of Metropolitan Planning

Based on the literature review, initial analysis is performed for 96 relevant articles and books using descriptive analysis. The descriptive analysis of the literature review is presented in Table 2.1, Table 2.2 and Table 2.3 below.

Table 2.1
Research methodologies employed in the literatures reviewed

Methodology	Number of articles discussing coordination in the metropolitan region (N = 96)
Case studies	51
Literature reviews	6
Theoretical and concept	37
Survey	2

Table 2.1 shows four methodologies used in the literature review. Most literature used case studies and discussed theory and concepts. This provides a good basis for this chapter.

Table 2.2
Geography of metropolitan regions discussed in the literature reviewed

Geography	Number of articles discussing the metropolitan region (case studies and illustrations) (N=83*)
North America	28
Europe	26
Asia	5
Australia	20
Africa	3
South America	1

*from total N = 92 literatures, not all discuss a specific metropolitan region

Table 2.2 shows that the metropolitan planning literature most frequently discussed, as case studies or as illustrations, developed countries in North America, Europe and Australia. This leads to critical questions, such as: “does metropolitan planning in developed countries look the same across cases?” or “to improve metropolitan planning, should metropolitan planning in developing countries follow metropolitan planning in developed countries?”

Table 2.3
Elements of metropolitan planning discussed in the literature reviewed

Elements of metropolitan planning	Number of articles discussing the metropolitan region (N = 96)
First, coordination in political institution: vertical relation	3
Second, coordination in political institution: horizontal relation	23
Third, coordination to create coherent metropolitan policies, plans or strategies	14
Fourth, coordination to implement metropolitan policies, plans or strategies	2
Combination two or more elements or and their shifts	54

Table 2.3 shows that effective coordination for metropolitan planning is influenced by first, efforts of local governments within a metropolitan region to coordinate within political institutions to solve regional problems, whether through consolidation, merger or annexation of the city centre and its surrounding municipalities or through independent work or through inter-local government (inter-municipality) cooperation. Here, the crucial concern, which is embedded within those efforts, is about a planning process that covers the entire metropolitan region. If it isn't supported by a strong metropolitan government, which results from consolidation, merger or annexation, a planning process for the entire metropolitan region may be ineffective. The second attempt is through coordination to create coherent policies, plans or strategies for the entire metropolitan region. Confronting dynamic changes and differences, such as those that exist across territories, strategies, authorities and capacities, the crucial concern is about the type of metropolitan plan, policy or strategy, whether developed as a blueprint/master plan or as a strategic plan. The other attempts are about central/federal or the province/state government intervention using laws and formal regulation to affect the implementation of the plan. More interestingly, most literature reviewed discuss two or more elements and the shifts that are generated by changes in social, politics and economics and institutional development.

2.2.2 Summarizing the literature

Guided by descriptive analysis, a summary of the literature review will be presented in Section 2.3. The summary will describe the descriptive analysis of elements of metropolitan planning presented in Table 2.3. Four elements of metropolitan planning will be classified into two arenas of discussion. This summary will highlight three crucial aspects of metropolitan planning: coordination of the organisations involved to govern a metropolitan region within a political institution, coordination capacity of the metropolitan plan, policy or strategy to create coherent plans, policies and strategies for the entire metropolitan region and coordination mechanisms amongst the organisations involved to implement the metropolitan plans, policies or strategies.

2.2.3 Reframing coordination arrangement of metropolitan planning through the approach of the form of governance

Based on the descriptive analysis and summary of the literature review, this chapter identifies and distinguishes elements of metropolitan planning, arenas and the scope of discussion and academic debates, including how the organisations involved shift their coordination arrangements to adapt to new challenges and new opportunities in order to keep coordination effective and to manage resource exchanges. There are various coordination arrangements involved in metropolitan planning and their dynamic shifts are interpreted through the lens of governance structures, rooted in the theory of Transaction Cost Economics. Those coordination arrangements will be referred to as prototypes of metropolitan planning. This interpretation will be presented in Section 2.4.

2.2.4 Developing a framework of metropolitan planning

The interpretation of various coordination arrangements of metropolitan planning with a focus on the form of governance is conducted to frame “no one size fit all” metropolitan planning using specific instruments to manage coordination. However, we need also to frame dynamic shifts in metropolitan planning, particularly when it comes to coordination arrangements. The best way to demonstrate both “no one size fits all” and dynamic shifts is by showing how various forms of governance aligned with each coordination arrangement and how they shift on a two-dimensional plane. This will be presented in Section 2.5.

2.2.5 Validating the framework of metropolitan planning that is developed

After a comprehensive framework of metropolitan planning is developed, we need to validate it. To validate the framework, this chapter will identify instruments used for metropolitan planning in several metropolitan regions. Validation is required:

- i. To check whether the framework can be operationalized to identify types of coordination arrangement (i.e. prototypes) of metropolitan planning by recognising instruments used in particular types of coordination capacity (development of metropolitan plans, policies and strategies and their relation to local plans, policies and strategies) and in the type of coordination mechanism used (in the implementation of metropolitan plans, policies and strategies). This check will be conducted by analysing three metropolitan regions (Amsterdam Metropolitan Area, Greater London and the Portland Metropolitan Area), which are discussed in the existing planning literature.
- ii. To check whether the framework can demonstrate clearly the dynamic shifts in the form of governance used in multi-organisation coordination for metropolitan planning. This check also will be conducted on the same three metropolitan regions.

Data for this validation is collected from existing electronic journals from Smartcat, related academic books and documents and from official websites of relevant metropolitan governments or metropolitan planning organisations, such as www.london.gov.uk, www.amsterdam.nl, www.metropoolregioamsterdam.nl (in Dutch, translated to English through the Google Chrome) and www.oregonmetro.gov. Validation of the framework is presented in Section 2.6.

2.3 The literature review: metropolitan planning and effective coordination

Metropolitan planning arrangements are not only “one a size fits all”, but also shift over time to adapt to dynamic change in social, economic and political factors. Metropolitan planning involves multiple organisations in different territories, at

different levels and with different authorities, different capacities and different strategies. They also need to respond to changes in economics, society and politics.

Based on the literature review, this chapter describes complex coordination in metropolitan planning using four elements (see a descriptive analysis in Table 2.3 above). Those four elements form two major arenas (see Table 2.4 below), which are closely linked to one another. The first arena focuses on institutional settings of metropolitan regions to establish planning powers for the entire metropolitan region. This arena focuses on how the organisations involved govern a metropolitan region. The second arena concentrates on the operational institutional setting across the metropolitan region, which embodies the use of coordination arrangements to create and implement coherent metropolitan policies, plans or strategies for the entire metropolitan region.

Table 2.4
Identification of Metropolitan Planning Elements

Element	Arena	Scope of Coordination	Issue	Academic Debates
1	2	3	4	5
1. political coordination: vertical relation	Institutional setting of the metropolitan region to govern and to develop planning policies for entire metropolitan region	Preferences for political coordination to establish institutional settings of the metropolitan region and planning power for the entire	<ul style="list-style-type: none"> Metropolitan planning authorities, which are embedded with metropolitan governance, how the metropolitan 	<p>Which approach is preferred to govern a metropolitan region?</p> <ul style="list-style-type: none"> localism, regionalism, new regionalism. <p>Understanding vertical relations of the organisations involved in a metropolitan region</p>

Element	Arena	Scope of Coordination	Issue	Academic Debates
1	2	3	4	5
2. Political coordination: horizontal relation		metropolitan region	<p>region is governed,</p> <ul style="list-style-type: none"> establishment and abolition of the metropolitan government, formal rules regulate or manage a metropolitan plan and its relation to local plans, formal rules created or developed to implement a metropolitan plan, policy of strategy, informal rules encourage local governments to cooperate 	<p>between the central/federal or state/province government and local governments</p> <p>Understanding horizontal relations among local governments involved in a metropolitan region:</p>
3. Coordination to create coherent metropolitan policies, plans or strategies	Coordination arrangement	Capacity owned by a metropolitan regional plan to coordinate plans, policies, or strategies of the organisations involved.	<ul style="list-style-type: none"> Capacity needed in the metropolitan plan to make its contents travel to other plans. Capacity needed in the metropolitan plan to address uncertainty existing in the metropolitan development. 	<p>Which type of plan is appropriate for a metropolitan region?</p> <ul style="list-style-type: none"> Master plan, Strategic plan Combination of both

Element	Arena	Scope of Coordination	Issue	Academic Debates
1	2	3	4	5
4. Coordination to implement metropolitan policies, plans or strategies		Available mechanism for the organisations involved to coordinate in order to implement a metropolitan plan (policy and strategy)	<ul style="list-style-type: none"> • Mechanism needed to implement a metropolitan plan, policy or strategy collectively or individually, • Mechanism needed to address uncertainty occurring in the metropolitan plan, policy or strategy 	Lack of debate in the academic literature on which type of mechanism for implementation of metropolitan plans, policies or strategies is appropriate?

Table 2.4 shows that metropolitan planning has four crucial elements: (1) political coordination of vertical relations between the central/federal or provincial/state government and local governments, (2) political coordination of horizontal relations amongst local governments involved in a metropolitan region, (3) coordination to create coherent metropolitan plans, policies or strategies and (4) coordination to implement metropolitan plans, policies or strategies. The first two elements establish political coordination to govern and to establish planning power for the entire metropolitan region. This part will be presented in Section 2.3.1. The second two elements establish coordination arrangements of metropolitan planning. This part will be presented in Section 2.3.2.

2.3.1 Institutional setting of the metropolitan region (metropolitan governance)

Much of the planning and urban study literature reveals that political institutions frame the planning process for the entire metropolitan region and influence local governments in a metropolitan region when coordinating politically, the output of which significantly influences the planning process for the entire metropolitan region (see for example, Newman and Thornley, 1997; Balducci, 2003; Salet, Thornley, Kreukels, 2003; Albrechts, et al, 2003; McCarthy, 2011). It mentions that these

political institutions connect constitutions, laws and other formal rules to the planning process for the entire metropolitan region. The institutional setting of the metropolitan region establishes how the metropolitan region is governed through formal government institutions and other related institutions, such as those in the world of planning or finance. Institutional settings in the metropolitan region influence vertical and horizontal relations of the organisations involved. Vertical relations between the central/federal government or provincial/state governments and local governments and horizontal relations among local governments are important (see Hamilton, Miller, Paytas, 2004). Vertical relations determine how the national government system works with provincial and local governments, whether in centralized, decentralized or mixed system (Hamilton, Miller, Paytas, 2004; Salet, Thornley, Kreukels, 2003). Horizontal relations determine how the government system provides constraints and opportunities for local governments, as the constituents of the metropolitan area, to coordinate, whether through the metropolitan government, individual local government or inter-local government cooperation. Institutional settings in the metropolitan region represent an acceptance of the organisations involved in governing the metropolitan region. Acceptance is one important aspect in the creation of efficient and effective coordination arrangements for metropolitan regions (see for example Alexander, 2002, 2006; Buitelaar, et al, 2007; Janssen-Jansen, 2011).

Hamilton, Miller and Paytas (2004) say that local governments are the key block in a metropolitan region. Yaro and Ronderos (2011) show that three academic debates prevail in discussions on political coordination in metropolitan regions: localism, regionalism and new regionalism. In addition, Xu and Yeh (2011) and Salet, Thornley, Kreukels (2003) also identify the relationship between political coordination in a metropolitan region and in other institutions, mainly those involved in planning. The government system provides rules on how the metropolitan region is governed, particularly political coordination among the metropolitan region constituents, whether through metropolitan government integrating local governments, through inter-local government cooperation, or through the individual work of local governments in the metropolitan region. It is important to consider the government system, since it determines how the metropolitan plan is developed and how it is implemented (Salet, Thornley, Kreukels, 2003; Xu and Yeh, 2011).

Some authors, such as Zimmerman (1970), Levefre (1998), Oakerson and Parks (1998) and Hamilton (2000) argue that the regionalism approach is conducted when local governments in the metropolitan region consolidate politically, through annexation or merger, and become governed by a metropolitan government. Mitchell-Weaver, et al (2000) note that metropolitan regionalism was the first approach deployed in response to urban problems in U.S. metropolitan regions. It was first used in New Orleans in 1805. Metropolitan government promises to be more effective in developing and implementing a metropolitan plan because it has control directly over local governments and has the power to issue planning regulations as required (Ostrom, Vincent and Charles, 1961; Hawkins, et al, 1991; Carr and Feiock, 1999). When the constitution and law, through written articles, provides an opportunity to establish a metropolitan government, some politicians and policymakers will attempt to form one (Oakerson and Parks, 1998). Planners also support this idea as an ideal political structure for the metropolitan region (Healey, 2004). However, they can also abolish the metropolitan government constitutionally (see for example O'Leary, 1987). But, it is also possible that metropolitan government is avoided because of the accompanying loss of legitimacy (Levefre, 1998; Alexander, 2002, 2006).

Coherently, Walker (1987) identifies 17 approaches to metropolitan governance in the United States, ranging from the easiest to hardest in terms of the difficulty involved in their creation. Some of those approaches influence the practice of metropolitan planning. For instance, the joint power agreement approach provides joint planning and financing for services to all people inhabiting areas in which the local governments are involved. Another example is the three-tiers reform approach, such as in the Twin-Cities (Minneapolis-St. Paul), where the metropolitan council functions as the authoritative regional planner and also as coordinator and controller for regional large-scale development covering 7 counties and 1 dozen localities. Many other examples demonstrate that the metropolitan government is a strong supporter of metropolitan planning (see also Marshall, 2000, 2004 for the case of Barcelona; Hutton, 2011 for the case of Vancouver; Seltzer and Cotugno, 2011 for the case of Metro Portland). The metropolitan government can enhance regional project development, such as metropolitan transportation (Friskien, 1991). On the other hand, existing formal institutions can also hamper the establishment of inter-local government

cooperation, leading to a territorial strategic plan (see, for example, Breda-Vasquez and Oliveira, 2008). The existence of the visible metropolitan government provides more powerful framing strategies for the metropolitan region constituents.

However, even though the metropolitan government promises to govern more effectively (Rao, 2002; Rodriguez-Pose, 2008), not all metropolitan regions prefer to be governed by a metropolitan government. When the government system does not accommodate the existence of a metropolitan government, local governments sitting in the metropolitan region have autonomous authority to govern their territory. They have more independence to decide what should be planned or developed, whether individually or jointly, with other local governments or with private entities. This situation means that metropolitan governance develops without government (Rhodes, 1996). Where metropolitan government does not exist, national, provincial or local rules are applied. These rules dictate how local government coordinate and how deeply they can do so, including how local governments or local people establish new local governments (Oakerson and Parks, 1989; see also Alexander, 2002, 2006 for the case of Amsterdam; Seltzer and Cotugno, 2011 for Metropolit Portland; Garrido, 2007 for the Spanish metropolitan regions). There is no single government governing the metropolitan region (Phares, 2004). In line with Tiebout's arguments (1956), each local government is responsible for its own development, meaning that local governments in the metropolitan region compete with one another. They compete to better serve citizens, following the principle of 'one feet one vote' (Parks and Oakerson, 2000). The metropolitan region is fragmented into two or more autonomous local governments, wherein each local government formulates its own local plan, such as Greater London in the 'transition' period after the GLC was abolished (Newman and Thornley, 1997). In this situation, a higher authority provides a metropolitan plan, but its relation to local plans is problematic (Bunker and Searle, 2007).

Another approach, emerges when the government system does not accommodate the metropolitan government, or when local governments need to enhance the effectiveness of metropolitan development without reducing their own authority, involves inter-local government cooperation. Inter-local government cooperation is established through formal rules, such as: local governments being required to cooperate more deeply, but existing formal rules do not provide a chance to establish

a metropolitan government (Albrechts, et al, 2003); or existing formal rules encourage inter-local government cooperation to govern the metropolitan region (see for example de Peuter and Wayenberg, 2007 for the case of Flemish region in Belgium; Haveri and Airaksinen, 2007 for the case of Finland metropolitan region).

However, when formal rules to establish inter-local government cooperation are absent, the organisations involved are also able to establish forms of inter-local government cooperation informally. Inter-local government cooperation is stimulated by non-formal rules when: the metropolitan government is rejected by the people, but constituent cities/districts of the metropolitan region want to enhance development for the entire metropolitan region (Alexander, 2002, 2006; Hauswirth, et al, 2003); they want to obtain incentives derived from economies of scale (Hauswirth, et al, 2003; Otgaar, et al, 2008); or they want to gather information (Feiock, 2009) or are motivated by their willingness to cooperate (Douay, 2010 for the case of French metropolitan regions).

There are various forms of inter-local government cooperation, ranging from single purpose to multi-purpose, consultation to joint-operation, small and large, and those which operate at different territorial scales (Hults and van Monfort, 2007). A form of inter-local government cooperation implies metropolitan planning. For instance, The Regional Council in Finland is a statutory inter-local government cooperation authority, whose main task is as the region's planning and economic development organisation (Haveri and Airaksinen, 2007). The Regional Council does not have the power to levy taxes, nor does it have regulatory power, but it is in a strong position because it can rely on its planning capacity, research expertise, a knowledge base, personal influence and networks. Another example is seen in Portuguese metropolitan regions, which have established a metropolitan association to accelerate implementation of collaborative projects (Rayle and Zegras, 2011).

At an operational level, governing the metropolitan region politically requires multi-organisation coordination in the plan making and plan implementation process. These two kinds of coordination are the main task of metropolitan planning (Alexander, 2002). This is the arena that Salet and Woltjer (2009) argue must be developed intelligently. The organisations involved coordinate to change their ideas and their

resource in order to obtain common goals within existing institutions, which in this research is referred to as the institutional setting of the metropolitan region. Since there are two levels of coordination, plan-making coordination and plan implementation coordination, this research refers simply to the coordination arrangement. Coordination capacity refers to the type of capacity required by a metropolitan plan to coordinate so that local (and provincial) plans are incorporated into the metropolitan region. This coordination covers the contents and instruments used. The coordination mechanism is a mechanism used by organisations involved in the collective implementation of a plan.

2.3.2 Coordination arrangement

As shown in Table 2.2, two elements, coordination when creating coherent metropolitan plan, policy, or strategy and coordination to implement them, are referred to simply as the coordination arrangement. Those two elements are the main task of metropolitan planning, as identified by Alexander (2002). Both are closely linked, but based on the literature review, we can see that each has a different purview.

a. Coordination to create coherent policies, plans or strategies for the entire metropolitan region

A challenge when developing a plan for a metropolitan region is that a planning area does not always match with the dynamic development of metropolitan regions consisting of two or more territories. Healey (2004) proposes that a plan should have the capacity to be translated into other plans. In the metropolitan region, the core focus is on how a metropolitan plan has the capacity to allow local plans to be developed coherently, incorporating its contents through certain planning instruments. Here, the idea is to integrate the metropolitan region using the metropolitan plan. This is a crucial issue. The metropolitan region, consisting of two or more local governments, tries to become consolidated through the contents of the metropolitan plan. Salet, Thornley, Kreukels (2003) focus on the spatial dimension, wherein multi-level governance is involved in order to create a coherent plan, policy or strategy. In the context of metropolitan planning, which consists of multiple organisations, each with their own plan, policy or strategy, plans covering the entire metropolitan region becomes crucial.

The literature reviewed discusses some types or characteristics of plans that may be appropriately employed in a metropolitan region, such as: (1) a plan that is supported by statutory planning legislation (for example Alexander and Greive, 1997; Abbott, 2009; Bunker, 2012), (2) a plan operated by consensus (Alexander and Greive, 1997), (3) planning that has been approached in a policy framework and as the result of negotiation rather than through rigid statutory control (Alexander and Greive, 1997), (4) strategic spatial planning (Kreukels, 2000; Albrechts, 2013), (5) strategic metropolitan planning (Bunker, 2012; Bunker and Ruming, 2010), (6) master planning (Albrechts, 2013), (7) zoning (Albrechts, 2013), (8) land use planning (Albrechts, 2013), (9) voluntary planning (Abbott, 2009), (10) long-range planning (Bunker, 2012), (11) collaborative planning (Bunker, 2012), (12) the need to integrate a number of plans in a metropolitan region (Bunker, 2012), (13) blue print plans (Bunker, 2012; Allred and Charabarty, 2015), (14) master-plans (Healey, 2006) and (15) metropolitan strategic planning (Robert, 1999), (16) allocating-negotiating plans, informing-leading plans, regulating-correcting plans and directing-implementing plans (Webster, 2005). Each of those plans is used in a certain region and at a certain time. Those type of plans point towards different development processes and institutions. Each plan uses specific instruments. Since a metropolitan region consists of multiple organisations, each of which has different authorities, capacities, territories and strategies, the biggest challenge when making a plan faced by a metropolitan region is the need to create coherent metropolitan plans, policies, or strategies.

b. Coordination to implement metropolitan policies, plan, or strategies

The organisations or authorities involved require particular mechanisms to implement a metropolitan plan, policy or strategy collectively or individually, which needs a particular form of coordination. This mechanism is discussed by Albrecht (2003) as a black box for many planners, wherein a plan that has been formulated can be changed, postponed or rejected at the implementation stage (see also Crespo and Cabral, 2010). Coordination mechanisms are also a concern in this research, since joint action involving multiple organisations takes effort and time (McCaffrey, et al, 1995; see also Ansell and Gash, 2008), which has an effect on the effectiveness of metropolitan planning. This coordination mechanism connects policies or plans to implementation,

particularly when articulating a plan involving the resources of actors or organisations involved, whether political, financial or technical (Mevellec and Douay, 2007).

c. Coordination arrangement problems in metropolitan planning

Based on the literature review, this research identifies difficulties or problems involved in coordination in metropolitan planning. Salet and Thornley (2007) argue that coordination in metropolitan regions is a complicated multi-scalar game, with many impediments and differing values, interests, resources, powers and authorities (p. 191). Those differences may generate negative externalities or a NIMBY problem in other authorities. Abbott (2005, 2009) identifies uncertainty as the main problem affecting the effectiveness of metropolitan planning. Abbott (2005, p. 238, 2009, p.245) defines uncertainty as “a perceived lack of knowledge, by an individual or group, that is relevant to the purpose or action being undertaken and its outcomes.” There are five planning process uncertainties: causal, value, organisational, chance and external uncertainties (Abbott, 2005, 2009). These uncertainties may cause obstacles in metropolitan planning, hampering coordination effectiveness. Hampering coordination effectiveness implies an increase in additional costs, because of, say, the need for extra meetings, more information gathering and extra monitoring. Ruth (1971) refers to these as the costs of uncertainty.

2.4 Reframing coordination arrangements in metropolitan planning through a focus on forms of governance

Institutional settings in the metropolitan region and coordination arrangements are two arenas discussed when identifying effective coordination in metropolitan planning. Both arenas contribute to creating effective coordination. The institutional setting of the metropolitan region shapes the form of political coordination amongst the organisations involved in governing a metropolitan region, because of both vertical and horizontal relations (Hamilton, et al, 2004). Vertical relations are those between the central/federal government, provincial/state government and local governments, whether centralized or decentralized. Horizontal relations are those between local governments, whether through annexation, merger, cooperation or working independently. The form of political coordination that combines vertical and

horizontal relations produces a particular governance approach within a metropolitan region, whether (1) through integrating, consolidating or merging the constituents of a metropolitan region and establishing or abolishing a metropolitan regional government, (2) through establishing inter-local government cooperation (through networks) or (3) through the individual work of each organisation (as autonomous and independent from others).

The form of political coordination preferred by the organisations involved when governing a metropolitan region represents an acceptance by the organisations involved of a coordination arrangement for metropolitan planning. The acceptance determines how strong planning power is for the entire metropolitan region. When the organisations involved seek to govern a metropolitan using the first approach, integrating constituents of a metropolitan region, the metropolitan government establishes planning authority that has responsibility for developing and implementing metropolitan plans, policies or strategies for the entire metropolitan region. On the other hand, the third approach creates fragmented planning power in a metropolitan region. The second approach can create a planning authority that is able to consolidate metropolitan plans, policies or strategies but which may face difficulty implementing them due to a lack of enforcement power.

In the operational context, the types of plans discussed in Section 2.3.2 point to three general characteristics: rigid, flexible or a mix of the two. These result from specific instruments used to apply the plan. A plan that is rigid uses a regulatory system and relies upon laws and regulations. A plan that is flexible uses the market system and relies upon incentives or potential benefits obtained. In plan implementation, difficulties occurred when the organisations involved apply instruments that jarred with each other.

Here, acceptance of the organisations involved in a particular institutional setting in a metropolitan region and application of coordination arrangements to develop and implement a particular metropolitan plan, policy or strategy, demonstrate application of a particular form of governance. This approach is rooted in the theory of Transaction Cost Economics (TCE) (Williamson, 1985, 1991, 1996, 1998). The theory of TCE provides an explanation for an effective arrangement to manage resource exchange

through the use of different and varied forms of governance, to use specific instruments, to analyse transaction costs and their sources, to analyse the selection of better forms of governance in order to reduce transaction costs (through the remediableness criterion) and to propose dynamic shifts to forms of governance. This chapter argues that metropolitan planning shifts dynamically because organisations involved attempt to manage effective coordination by ensuring that resource exchanges are performed with low transaction costs. In order to obtain effective coordination for metropolitan planning, this section reframes metropolitan planning through the lens of forms of governance.

2.4.1 Form of governance (governance structures), acceptance and shifts

This section presents three generic forms of governance and specific instruments used in each, acceptance of the organisations involved to create particular forms of governance, the sources of transaction costs and shifts in forms of governance.

a. The form of governance and instruments used

A form of governance is an arena of play of the game (Williamson, 1998). A particular form of governance, whether based upon hierarchy, markets or hybrids, is established under certain formal rules and informal constraints (Williamson, 1998; North, 1990, 1991; Simon, et al, 1991). Formal rules, provided by constitutions, laws and regulation, are used to establish a particular form of governance. Informal constraints provide incentives or disincentives for the organisations involved to coordinate or not. There are three generic forms of governance, each of which has specific instruments (see Table 2.5).

Table 2.5
Form of governance and its instruments

No.	Form of governance	Instrument	
		Administrative control	Incentive intensity
1.	Hierarchy	++	oo
2.	Market	oo	++
3.	Hybrid	+	+

source: Williamson, 1998

++ = strong

oo = weak

+ = moderate

Table 2.5 shows that hierarchical form of governance rely upon strong administrative control and mandatory regulations. It provides a framework for the organisational coordination, such as a bureaucracy that uses fiat and budgets (Fukuyama, 2004). Hierarchical forms of governance also work with codified directions or formal rules written in the constitution, laws and regulations. The main character of hierarchical forms of governance is integration.

Market-based forms of governance work on the basis of the strength and intensity of incentives. Through incentive intensity, the organisations involved interact and coordinate using price mechanisms (Williamson, 1998). Simon, et al (1991, p. 62) also reveal that incentives not only relate to monetary value or goods but also to non-monetary and non-material goods, such as prestige, personal power, pride, patriotism, religious feeling, conformity to habitual practices and feelings of participation in large and important events. The hybrid form of governance works through moderate administrative control and moderate incentive intensity. Identifying the particular form of governance and its main instruments are crucial since they are the output of the rules of the game and represent how the organisations involved manage resource exchanges and how they address the source of transaction costs (Williamson, 1991, 1996).

b. Acceptance of the organisations involved

The form of governance, whether hierarchical, hybrid or market based, is established by the organisations involved seeking to manage resource exchanges efficiently. One form of governance is more efficient than another when it has lower transaction cost. High transaction costs in the market can be reduced by regulating transactions using formal rules. This intervention implies a shift in the form of governance used, from a market based form to a hierarchical one. However, a shift in the form of governance that is implemented needs acceptance of the organisations involved. This principle is known as the remediableness criterion, as discussed by Williamson (1996, 1999). The remediableness criterion provides three requirements to implementing an effective form of governance: (1) no feasible superior alternative, (2) it can be described, (3) and can be implemented with expected net gain that is presumed to be efficient (Williamson, 1999, p. 1092).

c. Sources of transaction costs and shift of form of governance

Williamson (1996) identifies several sources of transaction costs: uncertainty, asset specificity and frequency, which all generate obstacles to coordination. When those exist, coordination involves more time and effort, which involves greater cost. High transaction costs reduce the effectiveness of coordination. Uncertainty is a lack of knowledge resulting from shortcomings in the existing system, a lack of communication or lack of action. Asset specificity is related to a number of factors, such as location, amount and kind of investment. Frequency refers to the number of similar transactions performed. High transaction costs can be reduced through a shift in the form of governance. To shift the form of governance requires shifting specific instruments. To shift specific instruments implies a shift in institution. According to North (1991), institutional shift or change is performed through interaction between organisations and institutions. Failure to reduce the source of transaction costs (uncertainty, asset specificity and frequency) will lead to higher transaction costs. To reduce high transaction costs, the organisations involved shift their existing form of governance to another form of governance. For example, high transaction costs in the market form of governance are reduced through the use of other instruments, which establish other forms of governance, whether hierarchical or hybrid in nature.

2.4.2 Reframing institutional settings in the metropolitan region

Following the remediableness criterion as a form of political coordination in the institutional setting of the metropolitan region represents an acceptance of the organisations involved. Acceptance of a form of political coordination is crucial to determining planning power for the entire metropolitan region. A form of political coordination that establishes a metropolitan government and which integrates all constituents of the metropolitan region is expected to lead to more effective coordination. However, through the remediableness criterion, the metropolitan government perhaps cannot be created, because of insufficient political support from the organisations involved.

Through the remediableness criterion, we may also be able to explain why some metropolitan regions fail to establish metropolitan governments (see for example Alexander, 2002, 2006). The metropolitan government, as a reform movement for urban institutional development, asks to transfer authority possessed by each constituent to the metropolitan government, implying that their authority will be reduced. They may reject this proposal to consolidate power and may prefer to opt instead for inter-local government cooperation. So, even though a form of political coordination promises to contribute to enhancing effective coordination for metropolitan planning, it cannot be implemented, since the organisations involved do not offer their support.

2.4.3 Reframing coordination arrangements in metropolitan planning

As discussed in Section 2.3, coordination arrangements have two dimensions: coordination to create coherent metropolitan plans, policies, or strategies and coordination to implement them. The first is referred to as the coordination capacity and the second as the coordination mechanism. This sub-section discusses both in order to reframe metropolitan planning through the governance lens. Inspired by three forms of governance (hierarchy, hybrids and markets), this section associates a type of plan to a form of governance (paying regards to coordination capacity) and discusses the type of coordination mechanism necessary for plan, policy or strategy implementation. In discussing coordination capacity, this section is inspired by the Transaction Cost Theory of Planning (Alexander, 1992) and the theory of TCE (Williamson, 1991, 1996). When discussing coordination mechanisms, this section refers to the notion of 'provision process', introduced by Ostrom, et al (1993). This

process is reframed through the governance perspective. Reframing coordination arrangements, consisting of coordination capacity and coordination mechanisms, for metropolitan planning through the governance lens will produce nine prototypes of metropolitan planning (see Table 2.8).

a. Coordination capacity

The contents of the metropolitan plan translate to local plans, which use the particular instruments applied. In this context, relations between the metropolitan plan and local plans represent coordination among the agency representing the metropolitan region (whether the central/federal government agency, the provincial/state government agency or inter-local government agency) and local authorities. Through this coordination, the organisations involved conduct resource exchanges, mainly involving information. In this context, Alexander (1992, 1994, 2001), drawing upon the Transaction Cost Theory of Planning (TCP), discusses two types of plan, the master plan, which is associated with hierarchical forms of governance, and the strategic plan, which is associated with the market form of governance. Both are located at extreme ends of a spectrum. Each type of plan has specific instruments, whether involving administrative control or incentive intensity.

The planning literature offers numerous examples of the varied instruments used to develop a particular type of plan. Those instruments can be classified into administrative control, incentive intensity or a mixture of the two. For example: (i) administrative control includes framing instruments (Macintosh, et al, 2013), fixed regulation (zones and overlays; hazard mapping and management plans; non-spatial regulatory restrictions; permit requirements and approval conditions; compulsory insurance; codes and guidelines; agreements on title; and reserves) and flexible regulations (Macintosh, et al, 2013, p. 46), (ii) incentive intensity includes information instruments, planning certificates, notation on land title and non-regulatory zones and overlays (Macintosh, et al, 2013) and (iii) mixed-instruments include a combination parking charges and tariffs. Those instruments are used by a superior agency in the metropolitan region to coordinate the constituents of the metropolitan region. The superior agency can be a planning agency, non-government agency, the central/federal or provincial/state government agency or an agency that has the mandate to develop a plan covering the entire metropolitan region.

Each group of instruments has specific characteristics, which implies different constraints and opportunities for the organisations involved.

i. Type of master plan

Alexander (1992, 1994) argues that master plans and coordinative plans work through hierarchical forms of governance. They use a mandatory framework of regulation and rely upon administrative control instruments to manage coordination between multiple organisations. These administrative control instruments shape behaviours through regulations. Regulations force actors to comply with individual plans and a common platform, such as the metropolitan plan, policy or strategy. The metropolitan plan, which is formulated as a type of master plan or coordinative plan, contains clear directions to be implemented in the metropolitan region. It is necessary that these directions are incorporated explicitly in local plans, developed by the local governments of the constituent metropolitan region. Coordination between the metropolitan plan and local plans is supported by administrative control instruments, which force local plans to accommodate the contents of the metropolitan regional plan.

This type of master plan is designed to give certainty over what actors should and shouldn't do in the future. It is supported by embedded rules, mainly administrative control instruments. The contents should be transferred and accommodated in local plans. Local plans contain contents (directions) that are formulated in the metropolitan plan. In some countries, for example the U.K., those administrative control instruments force local governments to accommodate the substance of the metropolitan plan into their local plan. In Greater London, boroughs should conform to the Greater London Authority (GLA). Conformity processes are regulated by the Town and Country Planning Act. When local government fails in this process, the borough doesn't receive specific funds from the GLA. The type of master plan, because it uses administrative control instruments, is associated with a hierarchical form of governance. The metropolitan plan, which is designed as a master plan, asks local plans to follow it. However, applying administrative control to a master plan and forcing other plans to follow it completely on the one hand provides

certainty, but on the other, reduces flexibility. The metropolitan region is a dynamic space, with new challenges and new opportunities, which requires flexibility for adaptation.

ii. Type of strategic plan

The metropolitan plan, which is designed as a strategic plan, gives signals to others over whether they should follow it or not. This is in line with what we see with a traditional strategic plan. When local government perceives that the substance of the metropolitan plan is important and promises to benefit them, they will accommodate it into their local plans. When the substance does not match with their strategy or does not provide benefits, they will not incorporate those into their local plan. The strategic plan relies on incentive intensity instruments. The incentive is not only related to monetary factors and goods, but also refer to pride, religious feeling, enhancing personal power, and feeling involved in major and important events (Simon, et al, 1991).

Unlike administrative control instruments, incentive instruments do not require the organisations involved to comply formally. Incentive instruments give more room and flexibility to others to decide for themselves. They take action not based on direction, commands or sanctions, but are motivated by potential or actual benefits obtained. So, local governments, as the constituents of the metropolitan region, internally translate and calculate signals provided by the metropolitan plan. Benefits obtained by following the metropolitan plan will incentivise local governments to integrate the contents into their local plan. However, this flexibility may reduce certainty in the future. This flexibility may also generate wider fragmentation among local governments in the metropolitan region. Local plans can differ from one another and from the goals in the metropolitan plan.

iii. Type of master-strategic plan or strategic-master plan

When addressing the dilemma between the strategic plan and master plan, theoretically, a type of plan combining those two characteristics and

instruments can be created. This type of plan may be called a master-strategic plan or strategic-master plan. Buscher (2014) refers to it as a programme-based plan. This type of plan is associated with a hybrid form of governance. This type of plan is also referred to by Albrechts (2006) as a new strategic plan. This master-strategic plan offers some rigid contents and some flexible contents and is also supported by administrative control instruments and incentive intensity instruments. A metropolitan plan that is designed as a master-strategic plan guides other plans to incorporate its rigid contents and provides flexibility over whether or not to follow its more flexible contents.

A reframing of these types of plans through the lens of forms of governance is conducted in Table 2.6.

Table 2.6
Type of the coordination capacity of metropolitan plans and main instruments used

No.	Type of coordination capacity	Variation	Instruments used		Characteristic	Form of governance
			Administrative control	Incentive intensity		
1.	Master plan	<ul style="list-style-type: none"> • regulatory plan (Albrechts, 2004), • framework plan (Albrechts, 2004), • land use (Albrechts, 2004), • blue print (Albrechts, 2004), • project plan (Faludi and van der Valk, 1994) 	++	0	<ul style="list-style-type: none"> • Legal certainty and rigid/inflexible, not responsive, formal status, official guidelines (Albrechts, 2004), • The future is closed (Faludi and van der Valk, 1994), 	Hierarchy
2.	Strategic-master plan or master-strategic plan	<ul style="list-style-type: none"> • program-based plan (Busscher, et al, 2014), • strategic project-based strategic plan (Albrechts, 2006) 	+	+	<ul style="list-style-type: none"> • Connecting strategic plan and project plan (Busscher, et al, 2014), • Strategic project (Albrechts, 2006) 	Hybrid

No.	Type of coordination capacity	Variation	Instruments used		Characteristic	Form of governance
			Administrative control	Incentive intensity		
3.	Strategic plan	<ul style="list-style-type: none"> spatial strategic plan (Healey, 2007), strategic plan (Faludi and van der Valk, 1994; Albrechts, 2004) 	oo	++	<ul style="list-style-type: none"> Characteristic for future is open (Faludi and van der Valk, 1994), Framework or guidelines for integrated development (Abrechts, 2004), Works through the interests of selected stakeholders (Abrechts, 2004), Managing change (Abrechts, 2004), Negotiated form in governance (Abrechts, 2004), 	Market

++ = strong
+ = moderate
o = weak

Dynamic challenges that occur in metropolitan region stimulate the organisations involved to adapt. The adaptation may influence them to terminate existing instruments used and to apply new instruments. The shift of instruments applied may be drastic, which also influences how the organisations involved coordinate.

b. Coordination mechanism

Albrecht (2006) understands the plan implementation process as a black box, since difficulties occur. In this research, this black box is explained with reference to the provision process (Ostrom, et al, 1993; Parks and Oakerson, 1989) and form of governance (Williamson, 1985, 1996, 1998). Provision processes contain three sub-processes: the collective decision-making process, the production and finance

arrangement process and the financing and regulation process (Ostrom, et al, 1993). Ostrom, et al (1993) argues that this provisioning process also contains transaction costs. By understanding these three sub-provision processes, we can group these three sub-provision processes into two groups: collective decision making and technical and administrative processes (formal procedures).

The first group, collective decision making, can be rigid or flexible. A rigid collective decision is performed when the source of decisions comes from existing official documents, for example, regulatory planning or policy documents. The organisations involved consider and confirm this and then accommodate them in their future decisions. However, a collective decision can be flexible when issues decided are available in existing official documents, but the organisations involved can freely exit from decisions already formulated in official documents or where issues decided are not available or lacking in existing official documents. The actors or organisations involved make collective decisions on the basis of the potential benefit or incentives that will be obtained.

In the second group, a formal procedure is mostly rigid. This has an administrative and legal effect on how a metropolitan plan is implemented (see Wassenhoven, 2008; Breda-Vasquez and Oliveira, 2008; Altes and Tasan-Kok, 2010; Feiock, 2007; Andersen and Piore, 2010). This formal procedure is issued by the national, provincial, metropolitan or local government. The organisations involved engage in procedures to implement collective decisions internally. Depending on the institution that is established, in general, procedures should be followed. Breaking the procedures may generate violence or illegal action. This presents legal risks to actors or organisations. This formal procedure covers, for example, administrative rules on how to govern and how to budget, land use regulation, environmental impact assessments as a prerequisite before a project begins or a specific permit from neighbourhoods to commence a building project. Some of those formal procedures are applied locally, and one local government may differ from another in how they go about doing so. To be involved in the execution of projects is not easy, since local governments are worried that their authority will be reduced (see for example Haverly and Airaksinen, 2007).

The coordination mechanism is a mechanism required to coordinate the organisations involved when implementing a joint policy, joint plan or joint strategy. According to the description above, this section reframes plan implementation with reference to the form of governance and provision. Thus, three types of coordination mechanism are focused upon: (i) collective decision-making and (ii) technical and administrative processes. Those three types of coordination mechanisms are:

i. Formal-continuous mechanism

The formal-continuous mechanism refers to a coordination mechanism within a regional plan, collective decision or collective agreement between organisations that can be implemented directly, continuously and without interruption. Since the provisioning process involves two groups, a plan, collective decisions or a collective agreement and collective implementation, each of which has different arenas, the provisioning process requires particular rules. Those rules are required because the implementation of a plan, collective decision or collective agreement impacts on the additional or wider involvement of each organisation involved (McCaffrey, et al, 1995). It requires additional resources, such as a budgets or rules (see, for example, Altes and Tasan-Kok, 2010). Depending on the existing institutions applied, not every form of inter-local government cooperation can frame this continuity process. Each organisation involved has internal rules that may present barriers to coordination and to cooperating more deeply (Rayle and Zegras, 2013). The formal-continuous mechanism contains rules safeguarding the continuity process in a plan, a collective decision or a collective agreement when it comes to its implementation.

Those rules safeguarding the provision process can be provided through formal rules. When the metropolitan region forms a metropolitan government, rules required so that the the provisioning process can be created more easily and an authority becomes responsible for creating rules. For example, the Spanish Basic State Legislation of Local Regime safeguards each municipality involved in inter-municipal cooperation in the Spanish metropolitan area to participate in collective decision-making (Garrido, 2007). Another example of this particular rule is discussed by Havery and Airaksen (2007), who argue that the

Finnish metropolitan regions require normative and legal changes to make sure project implementation can be realized within the context of inter-municipal cooperation. Those formal rules can be created not only by the metropolitan government, but also by an upper authority.

ii. Informal-discontinuous mechanism

The informal-discontinuous mechanism refers to forms of coordination and cooperation that take place through market forms of governance. They coordinate and are motivated by the potential incentive obtained. Each has individual rules, but there is no formal rule that requires them to act collectively. This situation motivates them to coordinate on the basis of potential incentives obtained. On the other hand, there is a common rule framing multiple organisations, but the rule does not fit with a previous process, such as a collective decision-making (Altes and Tasan-Kok, 2010). The informal-discontinuous mechanism is located in a different, more extreme position to the formal-continuous mechanism. The organisations involved calculate and compare benefits from incentives obtained and costs expended. Coordination and cooperation can be conducted when incentives exceed costs and the organisations involved can enter and exit from coordination efforts easily. This coordination is established without producing new rules and is conducted voluntarily (Feiock, 2007, 2009, 2013). Voluntary cooperation is perceived as an efficient form of cooperation (Feiock, 2007). The informal-discontinuous mechanism thus means that organisations involved use incentive instruments to take collective decisions, as well as to implement them. Because it relies on incentive instruments, the informal-discontinuous mechanism may be the most efficient mechanism when organisations involved benefit, without the need to create new rules that reduce individual authority.

However, when the organisations involved find it easy to enter and to exit arrangements, it will be difficult to develop collective decisions, agreements or a plans. When it comes to implementation, a further difficulty comes from the implementation processes, from which it is also easy to exit, which would hamper the implementation process. Authorities exit from it because it needs more involvement or an increased budget. So, they may expect to receive a

particular incentive when they become involved in a collective decision or agreement or when formulating a common plan, but the incentive expected may not materialise during implementation, which requires higher costs than the incentives obtained in the collective decision making process.

iii. Types of informal-continuous mechanism

The informal-continuous mechanism represents another type of coordination mechanism and overcomes the dilemmas associated with the two coordination mechanisms described previously. The formal-continuous mechanism may provide more certainty in terms of the formal procedures created and which match with a dynamic, collective decision, but a formal platform to make a collective decision will reduce adaptation. However, the adaptation required to make collective decisions and to cope with dynamic challenges and opportunities can be provided by the informal-discontinuous mechanism. This second coordination mechanism is also lacking in terms of safeguarding a collective decision during implementation. The informal-continuous mechanism is located between those two type of coordination mechanisms: formal-continuous and informal-discontinuous. The informal-continuous mechanism provides flexibility in collective decision-making processes but is more rigid in the implementation stage. The informal-continuous mechanism applies incentive instruments in the collective decision-making process and uses administrative control instruments in formal procedures.

A reframing of these types of coordination mechanism through the lens of the form of governance is presented in Table 2.7.

Table 2.7
Type of Coordination Mechanism in Plan Implementation and The Main Instruments Used

No.	Type of coordination mechanism	Variation	Instruments used		Characteristic		Form of governance
			Administrative control	Incentive intensity	Collective decision making	Technical and formal procedure	
1.	formal-continuous mechanism	(comprehensive) regulatory system	++	0	Directed by existing official metropolitan plan, policy or strategy (such as type of master plan)	Formal rules exist to support, encourage or safeguard a collective decision toward its implementation collectively. Rational/scientific approach is available for technical process	Hierarchy
2.	informal-continuous mechanism		+	+	Guided by existing official strategic (or strategic-master or master-strategic) metropolitan plan, policy or strategy or through spontaneous, reactive, stimulated by major events or political opportunity	Formal rules exist to support, encourage or safeguard a collective decision toward its implementation collectively. Rational/scientific approach is available for technical process	Hybrid

No.	Type of coordination mechanism	Variation	Instruments used		Characteristic		Form of governance
			Administrative control	Incentive intensity	Collective decision making	Technical and formal procedure	
3.	informal-discontinuous mechanism		0	++	Spontaneous, reactive, stimulated by major events or political opportunity and calculation of cost and benefit	Formal rules do not exist to support, encourage or safeguard a collective decision toward its implementation collectively. Rational/scientific approach is available for technical process	Market

++ = strong
+ = moderate
1. = weak

c. Prototypes of metropolitan planning

Based on the description above, the complete coordination arrangement has two main forms of governance, which each works to operationalize coordination capacity and coordination mechanisms. Given that each coordination capacity and coordination mechanism has three choices when it comes to the form of governance involved, there are nine models of coordination arrangement. Here, those models are called prototypes of metropolitan planning. A particular prototype uses specific instruments both in terms of plan making coordination and plan implementation coordination. Theoretically, the instruments used in each prototype can be distinguished from one another, as seen in Table 2.8.

Table 2.8

Prototype of metropolitan planning, form of governance and instruments

No.	Prototype of metropolitan planning	Means of prototype	Form of governance	Instruments used in coordination arrangement in metropolitan planning			
				Coordination capacity of the metropolitan plan		Coordination mechanism	
				Administrative control instrument	Incentive instrument	Administrative control instrument	Incentive instrument
1.	A	master plan and formal continuous mechanism	hierarchy	++	0	++	0
2.	B	master plan and informal-continuous mechanism	hybrid	++	0	+	+
3.	C	master plan and informal-discontinuous mechanism	hybrid	++	0	0	++
4.	D	strategic-master plan and formal-continuous mechanism	hybrid	+	+	++	0
5.	E	strategic-master plan and informal-continuous mechanism	hybrid	+	+	+	+
6.	F	Strategic-master plan and informal-discontinuous mechanism	hybrid	+	+	0	++
7.	G	Strategic plan and formal-continuous mechanism	hybrid	0	++	++	0
8.	H	Strategic plan and informal-continuous mechanism	hybrid	0	++	+	+
9.	I	Strategic plan and informal-discontinuous mechanism	market	0	++	0	++

++ = dominant
+ = moderate
0 = weak

2.5 Developing a framework of metropolitan planning through the governance lens

Thus far, this chapter has offered a descriptive analysis on metropolitan planning, a discussion on various forms of effective coordination and has interpreted them from the perspective of different forms of governance, rooted in the theory of TCE. However, in line with the aims of this chapter, we need to develop a framework that can demonstrate the “no one size fits all” nature and dynamic shifts involved in metropolitan planning. This section presents a framework of metropolitan planning that is dedicated to filling in for the inability to comprehensively identify effective coordination for metropolitan planning. As discussed in the previous sections, elements, arena and scopes of metropolitan planning are used to develop the framework, using three main principles:

1. Coordination arrangement of metropolitan planning in the institutional setting of a metropolitan region.
2. Separation of coordination capacity (types of a plan) and coordination mechanism (types of plan implementation coordination), but both are closely connected.
3. Three forms of governance (hierarchy, hybrid and market) are used in both the coordination capacity and coordination mechanism.

These three main principles are illustrated in Figure 2.2.

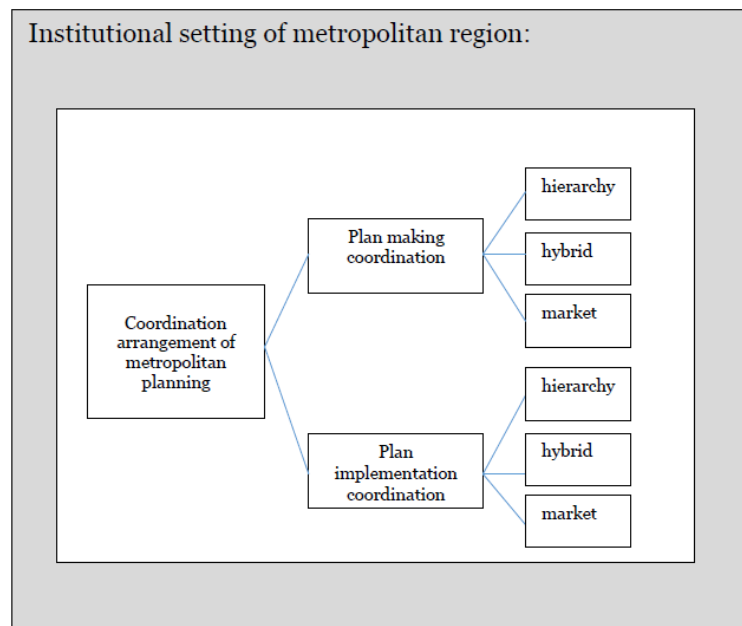
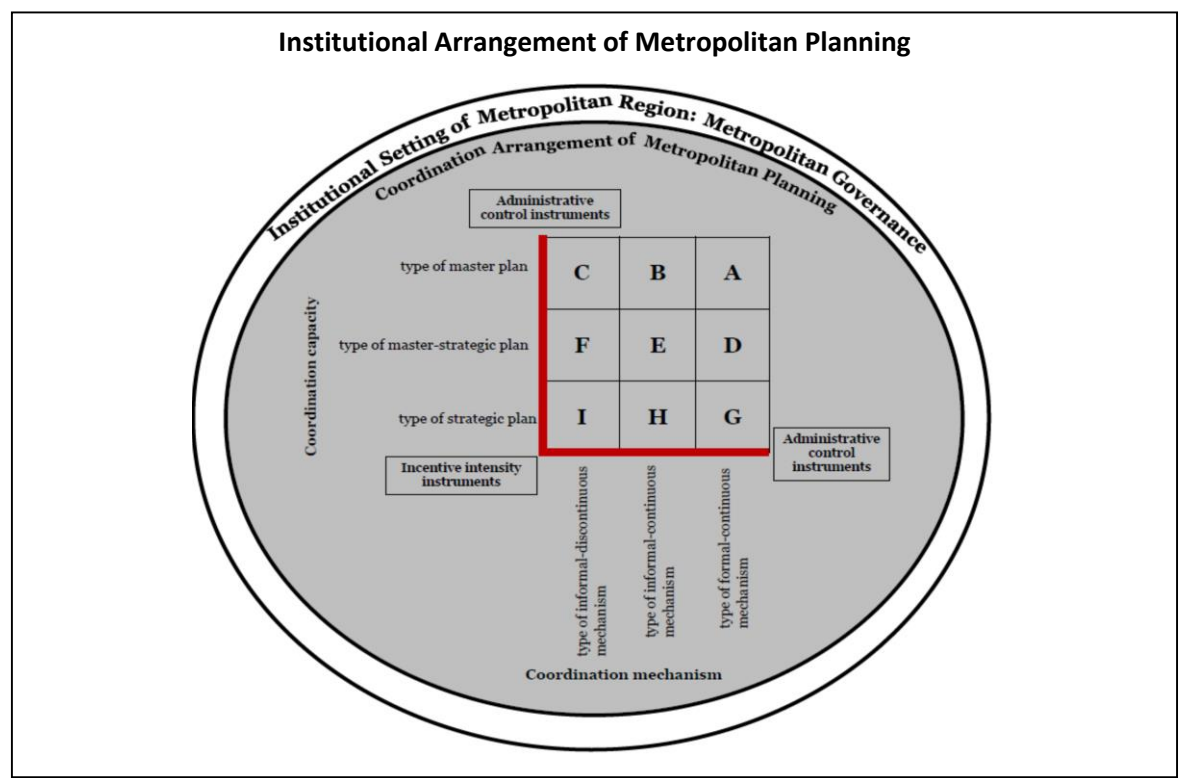


Figure 2.2
The Concept of Metropolitan Planning

Figure 2.2 demonstrates a concept of metropolitan planning structure that can be used to identify complex coordination in metropolitan planning with reference to the form of governance. There are three coordination forms in metropolitan planning: 1) political coordination establishing the institutional setting of the metropolitan region (metropolitan governance), 2) plan making coordination and 3) plan implementation coordination.

To demonstrate the dynamic shifts and “no one size fits all” character of metropolitan planning for different metropolitan regions and at different times, this section develops the framework along two dimensions. As has already been discussed, the figure has two levels: the institutional setting of the metropolitan region (metropolitan governance) and the coordination arrangements of metropolitan planning. Institutional settings in the metropolitan region cover and influence coordination arrangements in metropolitan planning. Coordination arrangements of metropolitan planning have two scopes: plan-making coordination, which is referred to as coordination capacity, and plan implementation coordination, which is referred to as the coordination mechanism. Each form of coordination has three generic forms of governance: hierarchy, hybrids and markets. Coordination arrangements are

presented to combine those two scopes and are coded in alphabetical order (see Table 2.8). The alphabet represents a prototype of metropolitan planning. The model of metropolitan planning is presented in Figure 2.3. It contains two arenas (institutional setting of the metropolitan region and coordination arrangements underpinning metropolitan planning) and two scopes (coordination capacity and coordination mechanism).



Source: developed by author

Figure 2.3
The Framework of Metropolitan Planning

Figure 2.3 promises to identify empirically and systematically the existing coordination arrangements in metropolitan planning. So, this figure can be applied to trace or to demonstrate dynamic shifts in metropolitan planning and to show that “no one size fits all”. This figure also can be used to guide recommendations for improvements to metropolitan planning. Improvement covers the 9 options contained therein. This figure is referred to in this research as the framework of metropolitan planning. The next section will validate the framework through the identification of

metropolitan planning in three metropolitan regions. Thus, it will discuss how to operationalize the framework.

2.6 Discussion and conclusion

Metropolitan planning, which covers multiple territories and multiple authorities, involves various coordination arrangements between the organisations involved. This generate difficulties when defining effective coordination for metropolitan planning. The difficulty increases when metropolitan planning shifts over time. This study attempts to address this through the development of a comprehensive framework of metropolitan planning.

2.6.1 Discussion

The framework developed in the previous sections needs to be validated to understand how the framework can be used to analyse the ‘no one size fits all’ nature of and dynamic shifts in metropolitan planning. Employing the framework developed in three metropolitan regions (Greater London, Amsterdam Metropolitan Area, Portland Metropolitan Region), the framework successfully demonstrates that metropolitan planning is not “one size fits all” and shifts dynamically, as seen in Figure 2.4 (see also Appendixes 2-4). Interestingly, those three metropolitan regions applied similar prototypes for metropolitan planning in the 1960s-1970’s (prototype I) and more recently (prototype D). However, they have taken different paths.

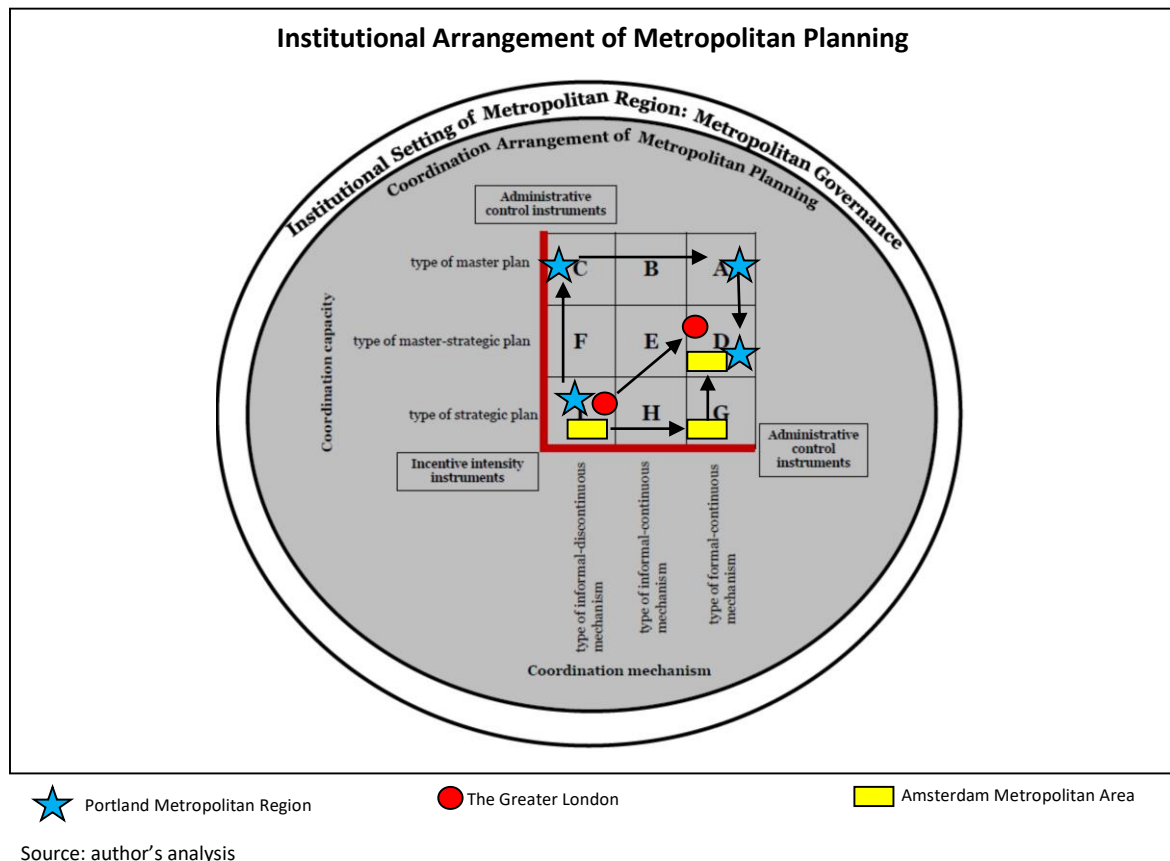


Figure 2.4
Prototypes of international metropolitan planning and its dynamic shifts

Through analysis of the existing planning literature, Figure 2.4 shows the “no one size fits all” nature of and dynamic shifts in the coordination arrangements in metropolitan planning in three metropolitan regions, Greater London, Amsterdam Metropolitan Area and Portland Metropolitan Region. They created and explored alternatives to enhance effective coordination for metropolitan planning. They can change drastically or incrementally and they become path dependent. Can those patterns inspire other metropolitan regions in the world?

2.6.2 Conclusion

This research identified that effective coordination for metropolitan planning does not have a single definition. Metropolitan planning is thus not “one size fits all” and is not static. Effective coordination for metropolitan planning differs from one metropolitan region to another, even from one time to another within the same metropolitan region. This shows the difficulty in offering a single definition of effective coordination. In

addition, the existing literature discussing metropolitan planning offers different ways of identifying effective coordination. So, analysing effective coordination for metropolitan planning needs a comprehensive and systematic framework that can encompass those variations and dynamic shifts.

To enhance our understanding of effective coordination for metropolitan planning, this research has developed a framework of metropolitan planning with various coordination arrangements and dynamic shifts. The framework of metropolitan planning developed in this chapter provides nine prototypes of metropolitan planning, each of which demonstrates a particular form of governance used through its specific instruments across two scopes of metropolitan planning: coordination to create coherent metropolitan policies, plans or strategies and coordination to implement them. Each scope of coordination may have a different form of governance.

Using this framework, effective coordination for metropolitan planning can be analysed comprehensively and systematically. Based on this framework, a prototype of metropolitan planning represents an empirical type of coordination arrangement in a particular metropolitan region and at particular time. The organisations involved, who make efforts to keep and to enhance effective coordination in metropolitan planning, always change from one prototype to another. Change to another prototype implies that instruments also change. This situation demonstrates that metropolitan planning is not “one size fits all” and that it shifts dynamically.

Chapter 3

Chapter 3

Metropolitan Governance and Institutional Design: Transportation in the Jakarta Metropolitan Region*

3.1 Challenges of Governing Metropolitan Transportation

Transportation issues, such as capacity or extension requirements of road and public transport networks, are best resolved at the metropolitan scale and require appropriate forms and approaches of governance for resolution. The Jakarta Metropolitan Region (JMR) is an example wherein the current governance structure is unable to address pressing transportation issues at the metropolitan scale and therefore metropolitan governance must be considered. Here, *metropolitan governance* is a crucial point for resolving issues related to metropolitan transportation and is defined as the interaction, coordination, and cooperation process the involved actors take to provide and produce regional infrastructures and services (Feiock 2009, 2013). Comprehensive and integrated transportation services and infrastructure require "good" governance to overcome their tendency for a fragmented and sectorial context, created by the fact that actors involved are limited by their own authority and capacity. Differing models of metropolitan governance could guide policy makers and urban planners in diverging directions on decisions about public transportation networks or toll roads. In other words, metropolitan governance influences the delivery of urban planning (Alexander 2006).

A key problem is that metropolitan regions in many countries include autonomous local public agencies, which are simultaneously functionally connected through transportation. Metropolitan regions do not, as a rule, have adequate institutional arrangements for solving and addressing these kinds of regional matters (Miller and Lee 2009). The notion of metropolitan governance, therefore, has generated fundamental debate, both academically and in planning practice, on the question of which institutional arrangements will deliver good governance. Good governance issues such as government effectiveness and regulatory quality (Kaufmann et al. 2010)

* This chapter has been published at Hidayat Putra, T., Woltjer, J., & Tan, W. G. Z. (2016). Metropolitan Governance and Institutional Design: Transportation in the Jakarta Metropolitan Region. In *Decentralization and Governance in Indonesia* (pp. 171-200). Springer, Cham

are key to providing and producing transportation services and infrastructures for urban areas.

3.1.1 Jakarta Metropolitan Region

This chapter showcases the institutional preferences of fragmented transportation actors in the case of Jakarta Metropolitan Region (JMR) of Indonesia for forming appropriate metropolitan governance at the regional scale (see Figure 3.1). The JMR, like other regions in the world, generally faces challenges in solving regional problems or addressing issues on a regional scale: these include floods, garbage disposal management, economic competition, manpower and labour wages, water management, and other issues in addition to transportation that involve local governments and other regional actors. The JMR suffers from the specific regional transportation problem of traffic jams. The worst traffic jams occur in Jakarta, the core area of the JMR and the economic, social, and political centre of the region and nation. This problem is exacerbated by the high volume of commuters travelling from the districts adjacent to Jakarta. The 2004 Study on Integrated Transportation Master Plan for Jabodetabek II (SITRAMP) facilitated by Bappenas and JICA, revealed that traffic jams generated a total economic loss of IDR 5,500 billion, comprised of IDR 3,000 billion in vehicle operating costs and IDR 2,500 billion in travel time. Moreover, the study also predicted that if the situation does not improve soon, that loss will increase to IDR 65,000 billion by 2020, comprised of IDR 36,900 billion in longer travel time and IDR 28,100 billion in additional vehicle operating costs. The SITRAMP report also recommended several policies, such as (1) promotion of public transportation use, (2) alleviation of traffic congestion, (3) reduction of air pollutants and traffic noise, and (4) reduction of transportation accidents and improvements in security (Bappenas and JICA 2004).

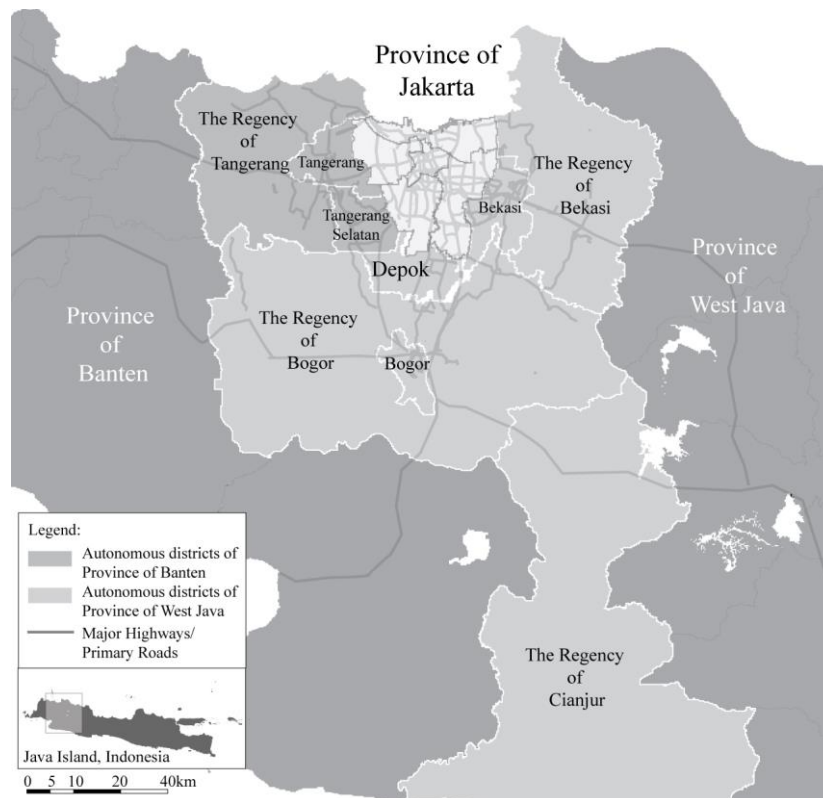


Figure 3.1

Map of Jakarta Metropolitan Region and its constituents

Jakarta's provincial government cannot resolve this problem on its own. It needs to coordinate and cooperate with other actor, such as other district governments, other provincial governments, and the central government, to reduce traffic caused by commuters who come from districts surrounding Jakarta and to develop a regional public mass transportation system. Appropriate metropolitan governance is a crucial issue because it is not only important to effectively provide and produce a regional public mass transportation system, but also to have that arrangement accepted by those regional actors from which support is required. In the case of the JMR, the establishment of appropriate metropolitan governance is particularly pressing as it directly affects the outcomes produced in the transportation system.

Decentralization and local autonomy policies from the early 2000s impacted development at the regional scale. At that time, the JMR was even more fragmented: it consisted of six non-autonomous districts in the Province of Jakarta and nine autonomous districts within two other provinces. These local governments tend to focus on development within administrative boundaries, but lack focus on

development at the regional scale. This conflicts with transportation issues that are typically regional in nature. This kind of fragmentation occurs not only amongst local governments, but some evidence suggests that it also occurs amongst central agencies managing this region (Kawaguchi et al. 2013). Fragmentation can contribute to lowered government effectiveness, which is detrimental for citizens in the region. Therefore, a lack of regional development, specifically in metropolitan governance issues, should be taken into account.

3.1.2 Appropriate Institutional Design

Government effectiveness is one dimension of good governance associated with discussions about the quality of public services, policy formulation, and implementation (Kaufmann et al. 2010). Metropolitan governance arrangements should fit contextual circumstances, particularly so that they can enhance government effectiveness, including the ability to provide and produce services and infrastructure at the metropolitan scale. Furthermore, effective metropolitan governance could contribute to sustainable development (Wheeler 2000). Effective metropolitan governance could also enhance the quality of metropolitan transportation, ensuring it is designed to reduce traffic jams in the JMR, leading to decreased pollution and reduced economic loss.

The object of analysis within this case is the extended service area development of TransJakarta Bus Rapid Transit (TJ BRT) from within Jakarta's borders to adjacent districts as a measure to deal with JMR's traffic problems. The service area expansion of TJ BRT is a good example, representing intensive debates on the question of what could be an effective model of metropolitan governance in the JMR. This understanding will lead to a context appropriate institutional design. Institutional design analysis is applied to this case study. Metropolitan governance requires appropriate institutional design for planning and executing metropolitan transportation development, particularly when the provision and production of infrastructures and services are fragmented. Institutional design facilitates the ability of actors—not only governments, but also others, such as civil societies and private entities—to reduce the effect of some institutional barriers to create a situation that is more conducive to attaining the formulated goals. Metropolitan governance in the JMR consists of local government agencies with mutual interaction and coordination

through general legislation. Therefore, the emphasis mainly lies on institutional design for macro-level arrangements such as general guidelines, and inter-organisational arrangements at the meso-levels instead of micro-level arrangements such as task forces, working groups, and committees.

Given the growing amount of metropolitan regions in the world, our society needs a better understanding of how actors (e.g., local governments, the central government, private entities, and civil societies) effectively provide and produce services and infrastructures at a metropolitan scale, linking different administrative authorities. In a case like the JMR, similar to other metropolitan regions in Indonesia, metropolitan governance is not legally clearly defined and the actors involved are often fragmented (Firman 2008). Focusing on transportation issues can enhance the understanding of appropriate models of metropolitan governance. This can, in turn, be applied to other regional issues in the JMR or even other urban areas. This chapter, therefore, proposes to explore what could be an appropriate institutional design for governing metropolitan transportation in the Jakarta Metropolitan Region. Here, appropriate institutional design refers to design that contributes to forming metropolitan governance that is accepted politically and can effectively implement policy and planning.

3.1.3 Research Design and Methodology

A qualitative methodology is applied, focusing on the metropolitan transportation institution of the JMR and its context of governance to understand what an appropriate institutional design could be. Relevant theories on institutional design and metropolitan governance were consulted and a proposed framework of institutional analysis has been applied to the case of JMR. The proposed framework is applied to empirical evidence collected through a triangulation of interviews and desktop research of policy documents and previous studies. This is followed by an analysis of previous and current institutional arrangements of the TJ BRT expansion. The chapter then concludes with discussions regarding what is an appropriate institutional arrangement and at what level institutional design is effective.

The TransJakarta Bus Rapid Transit (TJ BRT) is a public transportation solution serving a total of 241 km of roadways (Adiwinarto 2013). The TJ BRT is designed to

serve the region around Jakarta and resolve transportation problems such as traffic jams and citizen mobility (Adiwinarto 2013). The TJ BRT was selected as a case study because of its progress made towards full implementation in comparison to other systems and, more importantly, the incorporation of inter-jurisdictional issues within this process.

Data collection was carried out to obtain relevant data for analysis; desktop data collection included internet-based research and in-depth interviews of several key experts including:

1. The Head of the BKSP *Jabodetabekjur* Secretariat (the regional agency for the JMR)
2. A Section Head at the Ministry of Transport
3. A Division Head at the National Development Planning Agency
4. A Division Head at the Transport Department of Jakarta Provincial Government
5. A Division Head at the Transport Department of Tangerang Municipality
6. A Division Head at the Development Planning Agency of Tangerang Municipality
7. A Division Head at the Development Planning Agency of Depok Municipality
8. A Section Head at the Development Planning Agency of Bekasi Municipality
9. A Division Head at the TJ BRT Unit (a Jakarta Public Service Agency).

Most data were collected from online newspapers articles and literature, policy documents, and previous research. We reviewed articles published in four online national newspapers (Kompas.com, Tempo.co, Detik.com, and The Jakarta Post.com) between 2005 and 2013, and collected 49 articles related to the discourse of “Megapolitan” (a term for metropolitan governance proposed by the Governor), regional spatial planning, and inter-local government cooperation. In addition, we reviewed articles published in two online national newspapers (Kompas.com and Tempo.co) between 2008 and 2013, and collected 2,454 articles about the TJ BRT. While there are many newspapers in Indonesia, only four newspapers were selected because they are nationwide and perceived to be credible. The time periods were selected based on when the debates had occurred and availability of the article.

The collected policy documents vary from planning issues (spatial plan and transportation plan) to government arrangements (e.g., Law of Local Polity No. 32 of 2004). The collection of previous research mostly discusses transportation issues in the JMR (e.g., Badan Perencanaan Pembangunan Nasional [Bappenas] and Japan International Cooperation Agency [JICA] 2004, The Coordinating Ministry of Economic Affairs, The Republic of Indonesia [CMEA] and JICA 2012, The Institute for Transportation and Development Policy [ITDP] studies, and other related academic articles). An especially important source is the book written by Sutiyoso, the Governor of Jakarta of two terms (1997-2002, 2002-2007). In this book, he explains the “Megapolitan” concept that he had proposed to govern the JMR during his administration. He attempted to accommodate this concept in the revision of a new law on a special status for the Province of Jakarta as the capital city of Indonesia. Therefore, we treated textual data from this book and relevant information in newspapers as main sources to be explored and analysed for the identification of preferences and perspectives of relevant actors. The preferences and perspectives were classified within the discourse of the Megapolitan concept, regional spatial planning, and inter-local government cooperation and then conceptualized within the institutional design approach. The research approach was confirmed as part of the triangulation method by examining events that occurred (e.g., a political decision passed into law, government policies included in regulations, or products like the extended development of TJ BRT) and then connecting them to the article stipulated in the law or the regulation to be verified. The triangulation process which connected newspaper articles, literature, policy documents, and previous research was an appropriate and accurate method to confirm the empirical evidence which was then identified, classified, and conceptualized. To analyse the collected data, institutional analysis framed within the institutional design approach was applied, specifically at the macro and meso-levels. Previously identified institutions and the actors’ improvements were at the core of our analysis. The analysis also included institutions related to current metropolitan transportation in the JMR that may be more appropriate for the actors involved. The analysis identified the actors’ preferences and perspectives, the events and their relationships, and then constructed, reconstructed, and classified them into several parts of analysis.

3.2 Combining Metropolitan Governance and Institutional Design

This theoretical framework connecting metropolitan governance and institutional design is used to examine the case study. Metropolitan governance literature discusses the approaches that are used to develop transportation in a metropolitan region. The institutional design perspective facilitates the framing of those approaches into several classifications ranging from the macro to the meso-levels. Institutional design is also useful as a perspective that supports efforts to transform an idea into implementation where improvements made by actors could be identified and mapped systematically. Next, the concept and definitions of metropolitan governance and institutional design are explained leading towards the theoretical framework used to analyse the case study.

3.2.1 Metropolitan Governance

There are several intensive debates on metropolitan governance: what kind is more effective and accepted to implement in a metropolitan region; should that be done in a centralized or decentralized manner, or should we use a mix of those approaches; and should metropolitan governance be formal, informal, or a mix of both? In practice, the discussion about metropolitan governance involves coordination capacity and the mechanism preference. Coordination capacity is related to the capacity to address and solve the degrees of externalities. Coordination mechanism preference refers to the preference for adopting the transaction costs that emerge within the interaction between involved actors.

Similarly, there are various definitions of metropolitan governance, covering regionalism, localism/public choice and new regionalism (Yaro and Ronderos 2011). These variations in definitions are a result of the different focus on which level of scale should conduct governance in order to achieve efficiency. The regionalism perspective concludes that a metropolitan region, consisting of some basic local governments, should be managed by the regional government (Ostrom et al. 1961, Gottmann 1957, 1995). Proponents of this school of thought argue that efficiency of the provision and production of infrastructures and services can be reached if all local governments within a region are consolidated to meet economies of scale. This perspective encourages the establishment of a strong metropolitan government for a metropolitan

region. The second perspective, in contrast to the previous one, is a localism or public choice approach that focuses on providing and producing services and infrastructures within local government administrative boundaries. Supporters of this idea believe that efficiency can be obtained when every local government competes with each other to serve their own citizens. Competition among local governments generates the ability of people to 'vote with their feet' and move easily to another, perhaps better place and thus impacting on general elections outcomes (Tiebout 1956). The third perspective, new regionalism, promotes inter-local government cooperation and pragmatism (Yaro and Ronderos 2011, Savitch and Vogel 2000a; 2000b). With new regionalism, regional problems can be solved without reducing the authority of institutional actors involved and aid in achieving economies of scale.

The previously discussed perspectives link to other debates on which approach is more effective and more accepted for governing a metropolitan region, whether through a centralized or decentralized approach. Centralized and decentralized approach options have been important since Thomas Jefferson, one of America's earliest leaders, established the idea that a local government has to be independent and autonomous to provide space for citizens to participate in democracy, to be active in municipal meetings, and to be involved in governance (Hamilton et al. 2004). An arrangement or a governance approach that is set up and applied within a country, state, or province contributes to how local government functions. In a federal system, like the United States, various models of metropolitan governance are generated by local government constitutions (Oakerson and Parks 1989, Hamilton et al. 2004). A local government constitution provides space to local governments within a region to innovate and establish some models of relationships internally and externally. The influential factor for these models of metropolitan governance is whether a decentralized or centralized governance approach is applied (Hamilton et al. 2004). Those approaches are similar in administrative and political considerations, which also generate several models of metropolitan governance. To date, at least 17 models related to these considerations have been identified (Walker 1987).

Based on economic considerations, the fact that provision and production of transportation infrastructure could generate a deeper knowledge about how metropolitan actors work to meet citizens' demands on a metropolitan scale is

acknowledged. Provision and production are two important stages in realizing metropolitan services and infrastructures. The term provision refers to the responsibility for the quality and volume of services (and infrastructures) and ensuring that those services are financed and executed (Davey 1993 in Harpham and Boateng 1997, p. 66). Provision also describes which goods and services are provided through public means, which private activities should be regulated, how much public revenue should be raised and how to raise it, and how production should be arranged and monitored (Parks and Oakerson 2000). The term production refers to infrastructure and services are delivered after decisions about volume and quality have been made (Davey 1993 in Harpham and Boateng 1997, p. 66) and how to transform input resources in a way that results in a product or renders a service (Parks and Oakerson 2000). The understanding of the differences between provision and production becomes more meaningful when faced with a several-decades-long trend in which private entities are involved in production and civil societies are included in a public debate about the provision of public goods. Osborne (1993) discussed the importance of dividing the government's role into steering and rowing roles with which to enhance a government's performance. He also introduced the idea of an entrepreneur government that encourages the involvement of private entities in producing services and infrastructures.

This separation triggers a distinction between the role of government and that of private entities and civil societies, providing an opportunity to identify different understandings about formal, informal, and mixed arrangements. In many countries, these arrangements depend on constitutional and related laws that regulate democracy, freedom of speech and the freedom to organize transparency, accountability, public procurement systems, and other related rules. In a metropolitan governance context, this generates formal, informal, or mixed governance arrangements that provide and produce metropolitan services and infrastructures.

The actors involved also consider the embedded transaction costs and the degree of collective action problems. Transaction costs are a friction of the economy (Williamson 1985) and are barriers for inter-local governmental coordination and cooperation (Feiock 2009, 2012). Transaction cost can be expressed as the "... comparative cost of planning, adapting, and monitoring task completion under

alternative governance structures” (Williamson 1985, p. 2). It is a crucial factor that contributes to the form of governance. Two extreme forms of governance are that of the competitive market (political and economic) and a single hierarchical organisation. The competitive market is when transaction costs are low in impact, interdependence, and uncertainty. In contrast, a single hierarchical organisation (i.e., the public bureau and the corporate firm) generates a high impact, high interdependence, and high uncertainty. This single organisation form is better than the competitive market form because it can reduce transaction costs and avoid hazards (Alexander 2001).

Within the context of metropolitan governance involving collaborations among individual local governments, the consideration of transaction costs is related not only to the forms of governance, but also to the considerations around entering or exiting any collaboration. High transaction costs occur when an arrangement has consequences that include eliminating independent authorities such as centralization, disrupting current governance activities, creating uncertainties about the balance of authority among actors, and shifting the inter-organisational problem to an intra-organisational problem (Whitford 2010 in Feiock 2013, p. 400). In addition, in spite of the fact that the establishment of a regional authority enhances efficient urban policy, these consolidation efforts have failed in most cases in the United States (Feiock 2009). Instead, a collaboration that does not reduce actors’ autonomy is the most likely to be chosen. It could be formed as an informal network, a voluntary relationship, which, as a consequence, has low transaction costs. This informal network both preserves autonomy and makes it easier for actors to enter and exit the collaboration (Feiock 2012; 2013).

Moreover, within the context of metropolitan governance, Lowery (2000) emphasized the spill-over problems/effects or externalities that could result from local government policies that have impacts across jurisdictions. Spill-over problems/effects could also be seen as losses or benefits (Ostrom et al. 1961). Furthermore, Feiock (2009) referred to spill-over problems/effects as collective action problems that relate to the difficulties actors within a region face in matching public goods and services to citizens’ demands on multiple scales. Collective action problems are divided into three categories: horizontal, vertical, and functional (Feiock 2012). A horizontal collective

problem makes it difficult to produce goods and services that cross jurisdictions or other boundaries. A vertical collective problem occurs between actors at different levels of government who produce similar policy objectives. Finally, a functional collective problem is the result of conflicts between service, policy, and resource systems that arises due to externalities between policy arenas and functional areas. These approaches in representing services and infrastructures that should be provided in a region are used in this analysis. The nature of services and infrastructures are an important consideration in the analysis of the actors involved when making decisions or arrangements (Feiock 2012).

In summation, several aspects that contribute to the metropolitan governance are:

1. Metropolitan governance approaches (centralized, decentralized, or mixed)
2. Metropolitan governance arrangements (formal, informal, or mixed)
3. Coordination mechanisms influenced by the degree of transaction costs (high/low)
4. Coordination capacity to capture collective action problems (externalities or spill-over problems).

3.2.2 Institutional Design

Institutions are important as they dictate the space in which relevant actors consider whether to perform an action or not. North (1991) defined *institutions* as man-made constraints that configure social, political, and economic interaction. Institutions include both informal constraints (e.g., sanctions, taboos, customs, traditions, codes of conduct) and formal rules (e.g., constitutions, laws, property rights). North (1991) also revealed that institutions provide incentive structure for an economy. Institutions are an important element that deserves societal consideration and research focus, through, for example, their contribution to the achievement of regional development (Rodriguez-Pose 2013).

To understand metropolitan governance, one must consider the specific fit of institutions as determined by every aspects of the development of new regional services and infrastructure beyond that of the existing natural and man-made resources in a region. Actors involved in metropolitan governance consider coordination costs when addressing metropolitan-scale issues. Within the

metropolitan governance context, planners provide and produce metropolitan transportation services and infrastructures to solve problems, such as regional traffic jams. The planner's purpose also requires him or her to pay attention to the institutions involved (Alexander 2006). The lack of an institution contributes to the ineffectiveness of planning (Gualini 2001). Therefore, a plan needs an appropriate institutional design to support its purpose in order to support realization.

Institutional design pertaining to the which, how and what of institutions is required to implement a desired outcome (Alexander 2006, p. 4) and is defined as;

the devising and realization of rules, procedures, and organisational structures that will enable and constrain behaviour and action so as to accord with held values, achieve desired objectives, or execute given tasks.

It ranges from the macro to the meso and on to the micro-level. At the macro-level (the highest level), governance (constitution and related laws) is the main issue. Governance is not only government, but also the relation and form of all the actors involved. In some instances, discussions at this level also include a programme, project, or policy with an impact that is felt nationwide or even over a larger area, such as the Code of Hammurabi, the Code of Napoleon, or Roosevelt's New Deal programme. The body of knowledge of governance at the macro-level that fits with planning and institutional design is termed institutional economic knowledge (Alexander 2006). At this level, the appropriate question is "what are the appropriate forms of governance for the identified task in the relevant context?" (Alexander 2007, p. 53).

Discussions at the meso-level of institutional design focus on coordination. This level "involves the institutional design of the planning and implementation of structures and processes. It also covers the issue of creation or utilization of inter-organisational networks, the establishment of new organisations or the transformation of existing ones, and the development and deployment of incentives and constraints in the form of laws, regulations, and resources used to develop and apply policies, programs, projects, and plans." (Alexander 2006, p.7). Analysis of coordination at this level involves inter-organisational coordination, an element for institutional design

architecture. This is “the process of concerting the decisions and actions of several—sometimes many—organisations, for a purpose or undertaking that could not be accomplished by any one organisation acting alone” (Alexander 1995, p. 67). In line with governance at the macro-level that applies institutional economics, at the meso-level this is based on transaction cost economics that contribute to the structure of forms of governance (Alexander 2006).

Alexander (2006) also mentioned that the planners mostly function at the meso-level in the various fields of transportation planning, infrastructure planning, land development, housing, social and human services, public-private partnership, local economic development, urban revitalization. Within these fields, planners develop a plan and ensure its effective implementation within a specific time schedule. Next to planners, almost everyone else who has a position that involves managing an organisation is responsible for ensuring effective achievement. These processes involve institutional design. In addition, the meso-level of institutional design focuses on the question “(what)... frameworks, system, or structures ‘fit’ the institutional design setting and tasks?” (Alexander 2007, p. 53).

Finally, the micro-level of institutional design emphasizes discussions about agency. It includes discussions about intra-organisational design, organisational sub-units and small semi-formal or informal social units (e.g., committees, teams, task forces, work groups). Agent theory could be useful in the analysis of this level (Alexander 2006). The application of the analysis at this level could, for example, involve the analysis of a contracted bus company’s performance issues in relation to its public agency.

Alexander (2006) identified two approaches of institutional design in practice. First, institutional design is not like other design activities, such as architecture, that require the best knowledge, intuition, and contextual experience. Institutional design should be collectively developed (Alexander 2006). Requirements may constrain people’s ability to share knowledge, but the three levels of analysis (macro, meso and micro) are “technologies” that could assist people in understanding and identifying a problem and formulating a solution in a specific context. This technology generates the second approach to institutional design: it is an interactive process or dialogue between

collective “micro-constitutional” decisions in a much needed heuristic approach (Alexander 2006).

3.2.3 Theoretical framework

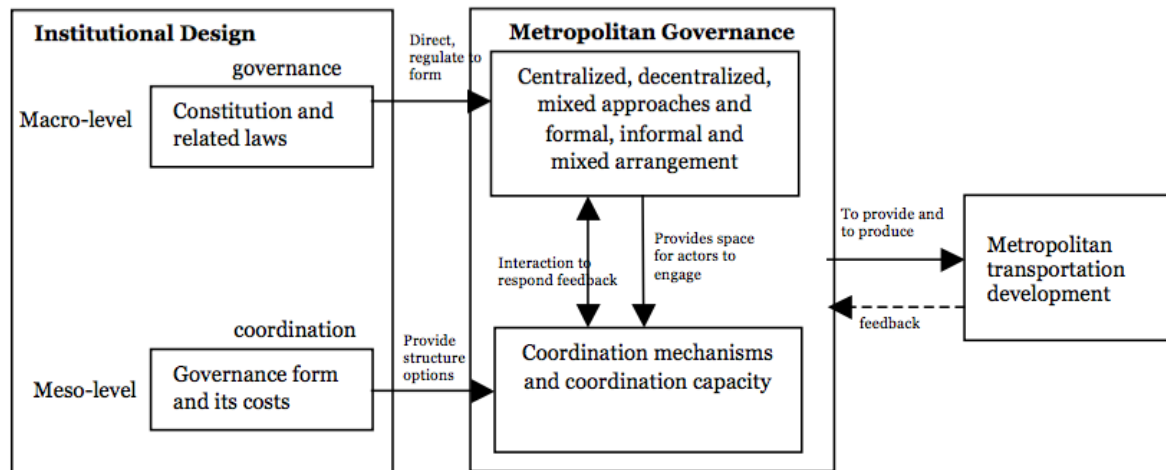
The various models of metropolitan governance that exist around the world result from the different constitutions and related laws, and different arrangement of actors involved in interaction and coordination. Unlike local governments, metropolitan regions are not political entities (Miller and Lee 2009). Generally, there is no set political structure as a city begins to grow and expand into surrounding district areas, becoming a core of a region. Local governments and other actors exist within a region and are involved in metropolitan governance. These include the central or federal government (particularly in a metropolitan region where the capital state is located or in a region of national importance), provincial or state government, private entities, and civil societies. Metropolitan governance can involve a wider range of actors because the term “governance” has a broader meaning than “government” as it includes a decision-making process.

According to literature, there is a correspondence between institutional design and metropolitan governance (see Table 3.1). The macro-level of institutional design concentrates on discussing governance. Contributing factors include the constitution and related laws that link up with the governance institution models (centralized, decentralized, or mixed) in a metropolitan region. The macro-level includes governance arrangements that can be formal, informal, or mixed. At a macro-level, the governance arrangement provides a space for actors to interact, coordinate, and cooperate. At the meso-level, the focus shifts to discussing coordination. Contributing factors, such as transaction cost theory and inter-organisational coordination (Alexander 1998), connect with coordination mechanisms in metropolitan governance, which in turn considers both factors. The meso-level includes coordination capacity, particularly the capacity to address the magnitude of spillover problems. When institutional design is an interactive process, the quality of coordination is influenced by the space provided by governance arrangement at a macro-level. This illustrates a link between the macro and meso-levels.

Table 3.1
Connections between Levels of Institutional Design and Aspects of Metropolitan Governance

Level of Institutional Design	Aspects of Metropolitan Governance	Contributing factors
Macro	<ol style="list-style-type: none"> 1. Governance approaches (centralized, decentralized, mixed) 2. Governance arrangements (formal, informal, mixed) 	Constitution and related laws
Meso	<ol style="list-style-type: none"> 1. Coordination mechanism 2. Coordination capacity 	Transaction costs and capacity of inter-organisational coordination

A theoretical framework combining metropolitan governance and institutions design and illustrating their relationship as based on the above discussions is developed (see Figure 3.2). Institutional design is an interactive process that may be heuristic and contributes to the formation of some aspects of metropolitan governance. Institutional design contributes to metropolitan governance, such as through an approach (centralized, decentralized, or mixed), or arrangement (formal, informal, or mixed). Institutional design also provides coordination capacity for addressing several degrees of collective action problems, and accommodating several classes of transaction costs. The first two items relate to the macro-level and the latter two relate to the meso-level of institutional design. The composite of those aspects influence actors involved to develop metropolitan transportation services and infrastructures. Furthermore, evaluation of the quality of metropolitan transportation developments provides feedback to metropolitan governance. Improvement may be related and impact one or more of the aspects that are part of institutional design at the macro-level, meso-level, or both.



source: Authors as developed from Alexander (2006)

Figure 3.2

Theoretical Framework combining Metropolitan Governance and Institutional Design for transportation development

3.3 Transportation in the Jakarta Metropolitan Region

Development of public mass transportation at a regional scale is important for a metropolitan region like the JMR. Public mass transportation systems serve an entire region's mobility and support its strategic economic, social, and political roles within a national landscape. The development of a better metropolitan transportation system in the JMR is crucial as it is an area with acute traffic jams and a worsening situation having economic and social impacts. Unfortunately, this situation is compounded by the fragmentation of actors that made it more difficult to reach a solution. Many actors were involved in metropolitan transportation development in the JMR: the Ministry of Transportation, the Ministry of Public Work, the Ministry of National Development Planning, the Ministry of Environment, the Ministry of Finance, the Provincial Department of Transportation in three different provinces (Jakarta, West Java, and Banten), the Provincial Department of Public Work in three different provinces (Jakarta, West Java, and Banten), the Regional Development Planning Agency in three different provinces (Jakarta, West Java, and Banten), the District Department of Transportation, the District Department of Public Work, and the District Development Planning Agency in nine different districts (Tangerang Regency, South Tangerang

Municipality, Tangerang Municipality in the Province of Banten, and Depok Municipality, Bogor Municipality, Bekasi Municipality, Bogor Regency, Bekasi Regency and Cianjur Regency in the Province of West Java), the Association of Land Transportation Owners and Operators (Organda), and the BKSP Jabodetabek (the JMR inter-local government cooperation agency). This fragmentation was also reflected in the coordination failures amongst actors involved in the horizontal, vertical, and functional aspects of governance (Bappenas and JICA 2004).

The Provincial Government of Jakarta developed a bus rapid transit (BRT) system to deal with the above issues. This is a dedicated bus route transportation system specifically designed to improve citizens' mobility in metropolitan areas or large cities by increasing frequency and capacity. It functions with dedicated lines or routes integrated with designated bus stops, specific type of buses, and programmed schedules that link a number of strategic areas within a region, served by an intelligent transportation system to coordinate information. The advantages of BRT are (1) reduced travel time, (2) the possibility to reduce private vehicle use, (3) reduced air pollution, and (4) the possibility to develop a system integrated with other transit modes such as a train or light rail. In addition, developing BRT instead of another transit mode helps to (1) supports activities in the central business district, (2) be implemented quickly and incrementally, (3) be less costly than rail transit, (4) be more effectively serve and adapt to different environments between suburban and core areas, (5) provide quality performance, (6) be more suited to linking with extended rail transit service areas, and (7) be integrated with the environment to foster economic development and transit, and pedestrian design (Levinson et al 2002). This explains the popularity of BRT around the world in both developed and developing countries, such as Ottawa (Canada), Boston (United States), Brisbane (Australia), Amsterdam, Eindhoven, Rotterdam, and The Hague (the Netherlands), Bogota (Colombia), Guangzhou and Taipei (China), Tehran (Iran), Istanbul (Turkey), Mexico City (Mexico), and Sao Paulo, Rio de Janeiro, Belo Horizonte, Recife, and Curitiba (Brazil) (Hidalgo 2012, Levinson et al. 2002, Veeneman and Koppenjan 2010).

The institutional arrangements of these metropolitan areas that provide and produce BRT differ from each other even within the same country (e.g., in the Netherlands). For instance, BRT in Bogota, Colombia is mainly managed through a public-private

partnership: the central and local governments are responsible for delivering infrastructure, busways, and stations, and for planning and controlling operations while private entities are contracted to acquire and operate the vehicles and some supporting infrastructures (Turner, Kooshian and Winkelman 2012, p. 12). In the Netherlands, BRT is managed differently in each of the four cities (Veeneman and Koppenjan 2010). In Amsterdam, BRT was developed through close collaboration between an operator, the province, and a regional authority with national and provincial funding. In Rotterdam, one district (the Municipality of Capelle) plays an important role in managing BRT for the regional authority similar to The Hague, which as a municipality also takes responsibility for managing the regional authority. However, a different type of management is applied in Eindhoven and the Veldhoven area. There, the regional authority takes the lead. This is also the case in Boston (United States), where the BRT is managed by the Massachusetts Bay Transportation Authority, which operates mass transit services such as buses, streetcars, and rapid transit lines, and which contracts Amtrak to operate commuter railroad services (Gomez-Ibanez 1996). These illustrations show that there are various models of metropolitan governance related to transportation and BRT.

The Jakarta Metropolitan Region had different and dynamic experiences in developing its BRT system - TransJakarta Bus Rapid Transit, locally known as the busway. This study identifies three phases of improvements for developing TJ BRT through (1) the Megapolitan proposal, (2) JMR spatial plan, and (3) inter-local government cooperation. These improvements have been identified and examined through the lens of institutional design.

3.3.1 Improvement Phase 1: the ‘Megapolitan’ Proposal (2005-2007)

Traffic jams in Jakarta are a critical and acute problem. Two important studies by Indonesia Infrastructure Initiative (INDII), the Australian Aid (AUSAid), CMEA, and JICA have identified the cause of the traffic problem to be a result of an imbalance between road development on the supply side and growth in the number of daily vehicles. These studies predicted that without necessary measures, gridlock would occur in 2014 due to the increase in the number of daily commuters from districts surrounding Jakarta who work in the Province of Jakarta (CMEA and JICA 2012, INDII-AUSAid 2011).

In order to reduce traffic jams around the Province of Jakarta, the provincial government cooperated with private companies to develop the BRT system. The first corridor has been in operation since 2004. While the system was designed to serve 12 corridors from 2004 to 2007, only 7 corridors were completed. However, Akbar (2012) pointed out that the system served around 300 thousand passengers per day in 2012. Moreover, this was also an improvement because the regular buses in use before the TJ BRT had a number of weaknesses such as not following a predictable schedule, not stopping at bus stops, not stopping at all once the bus was full, sitting and waiting to collect more passengers delaying those already on the bus, and competing for passengers at the curb side in a dangerous way. Moreover, the buses were deteriorated thus creating air pollution and serving as sites of petty crime (ITDP 2005). This old-fashioned bus service was transformed and made more efficient on some routes. It successfully supports citizens' mobility, reduces traffic jams in Jakarta's main corridor, and decreases air pollution. In relation to supporting global sustainable development and the clean air campaign, the TJ BRT contributed to the Provincial Government of Jakarta, winning the Air Quality Management Champion Award of the Clean Air Initiative for Asian Cities in 2006 (Soehodho 2011).

Although successful, the TJ BRT only served limited areas of Jakarta, whilst commuters from surrounding districts contributed to traffic jams. In response to those commuters (see Table 3.2), specifically to reduce the number of private vehicles they used, the Provincial Government of Jakarta proposed extending the service coverage area by integrating the surrounding district governments under one consolidated management. This was an idea, introduced by Sutiyoso, the Governor of the Province of Jakarta for two terms (1997-2002 and 2002-2007) as part of the Megapolitan concept. In fact, it was a revitalization of an idea proposed by Ali Sadikin, the Governor of Jakarta from 1966-1977, to consolidate the region. Sutiyoso (2007) believed that the JMR would be better served by one responsible organisation, established to reduce the ineffectiveness of inter-local government cooperation. His idea was to integrate the region around management of issues, such as transportation, floods, and waste management. He later modified it to integrate those issues through regional spatial planning. He tried to use this concept to solve traffic jams by expanding service area

of mass transit systems (e.g., the monorail and TJ BRT) from within the municipality of Jakarta towards other surrounding districts (Sutiyoso 2007).

Table 3.2

Daily Commuter Trips from Districts Surrounding the Province of Jakarta

District	Province	Region	Number of Daily Commuter Trips (thousands)		Increase
			2002	2010	
Tangerang Municipality	Banten	West part	247	344	39%
Tangerang Selatan Municipality	Banten				
Tangerang Regency	Banten				
Depok Municipality	West Java	South part	234	338	44%
Bogor Municipality	West Java				
Bogor Regency	West Java				
Bekasi Municipality	West Java	East part	262	423	62%
Bekasi Regency	West Java				
Total			743	1105	49%
Source: Adapted from the Coordinating Ministry of Economic Affairs of the Republic of Indonesia and Japan International Cooperation Agency (JICA), (JUTPI Study 2012)					

The *Megapolitan* concept was inspired by Megalopolis, as introduced by Jean Gottmann, (1957) to describe a large region on the north-eastern seaboard of the United States where urbanization functionally connected some areas (e.g., Boston, New York, Philadelphia, and Washington, D.C.). He proposed the establishment of a specific institutional arrangement: treating that extensive region as a unit in which interstate compacts might arise to solve transportation problems (Gottmann, 1957). Sutiyoso's concept was intended to be accommodated in a new law or an amendment of the Law of the Province of Jakarta as the Capital City of the Republic of Indonesia. This is classified as a regionalism approach, focused on strengthening a regional government (Yaro and Ronderos 2011).

Traditionally, the JMR has been governed through an inter-local government cooperation agency: the *Badan Kerja Sama Pembangunan Jabodetabekjur* (the BKSP *Jabodetabekjur*), formally established in 1993, with an initial stage of this cooperation starting in 1975 (BKSP *Jabodetabekjur* 2007). The BKSP *Jabodetabekjur* had some tasks related to integrating, synchronizing, and simplifying all aspects of programmes. It consults with the central government about the development of the JMR and its

implementation plan. This task was difficult to achieve because this agency had little authority (Firman and Dharmapatni 1994). This region also experiences development problems related to having low revenue and excessive charges decreasing its competitiveness. During the Suharto era (prior to the reform movement), these were not significant problems because the powerful central government could either offer political solutions or take over the control. In spite of these weaknesses, the BKSP *Jabodetabekjur* has been politically accepted (Firman 2008).

To overcome the ineffectiveness of the BKSP *Jabodetabekjur*, Sutiyoso offered four options for managing the region. The first option, the Megapolitan concept, was realized through a new special province and led by the Governor of Jakarta. The second option was to enhance the performance of the inter-local government cooperation agency. The third was to allow one of the current ministers in the cabinet to lead the region (e.g., the Minister of Public Work, the Minister of Home Affairs, or the Minister of National Development Planning), or to allow the president to appoint a new minister, the Minister of Megapolitan, to govern the region. Finally, the fourth option was to form a new authority that included sectoral authorities such as a transportation authority (Sutiyoso 2007).

We have met frequently, but I want to institutionalize and strengthen it through the law. The own-local revenue will not be taken over, a regent is still the regent, and also the mayor. The busway (the TJ BRT) could be proposed to reach Tangerang, the monorail to reach Bekasi and the subway to reach Depok. (Sutiyoso, the Governor of Jakarta 1997-2002, 2002-2007, quoted from Mahbub (2006), translated from Indonesian)

Sutiyoso argued that this was still a decentralized approach in which local governments have their own authority. However, implicit in the proposal was the idea that the Provincial Government of Jakarta was designed to become a main actor with a role in the entirety of the JMR in providing and producing metropolitan services and infrastructures. Based on this designed authority, the Provincial Government of Jakarta would extend the services of the TJ BRT and other public mass transportation

systems, such as monorail and subway, from within the municipality of Jakarta to municipalities in the surrounding districts. To support this idea further and to declare his readiness and confidence, Sutiyoso also endorsed the Macro Transport Scheme. The success of the TJ BRT development in reducing traffic in the municipality of Jakarta was credited as the selling point for this scheme.

Even though some district governments supported the Megapolitan proposal, the governors of West Java and Banten rejected it. Both governors perceived it as a reduction of their authority, annexing districts into the authority of the Province of Jakarta, thus significantly decreasing their own provincial revenue as each district contributed significantly through the vehicle tax. Opponents also argued that it is better to govern the region through a regional spatial plan than through consolidation of the local governments into one authority. They supported the idea in general but since regional problems are common problems, these should be addressed with some sort of collective action instead of a created metropolitan government that would reduce their direct authority.

I absolutely agree if the concept is intended to improve people's well-being rather than take over administration. We have a plan and vision for this region, so it will be better if the (Megapolitan) concept does not affect the administrative powers. (Danny Setiawan, the Governor of West Java from 2003-2008, quoted from Sufa 2006)

In the second option, the concept acknowledged existing regional governance but unfortunately influential actors had the perception that the mechanisms would reduce the authority of local governments. Since the concept did not cohere with other existing laws, the proposal was rejected not only by the governors, but also by some ministers. This idea actually involved a political reform. The existing law about local government (Law No. 32/2004) emphasized the decentralization of local government and encouraged inter-local government cooperation in solving inter-jurisdictional problems. Finally, this proposal failed politically when the parliament did not turn this concept into the new law.

Based on an institutional design framework, this proposal tried to improve the approach to governance by moving from a decentralized approach to a mixed approach with elements of centralization and decentralization. A decentralized approach preserves local autonomy with the local government as the main actor in providing and producing public goods. A mixed approach promotes the consolidation of local autonomy by centralizing power in a single authority at the local government level. Regionalism proponents believed that this would enhance effectiveness and efficiency because a new, larger entity and a unified organisation would elevate economic scale and reduce transaction costs. In spite of these advantages, this Megapolitan proposal failed because the improvement needed to transform the metropolitan governance model would require a political change. This process also incorporated some efforts such as lobbying, an opinion war played out in the newspapers and media, demonstrations, intensive debates, and bargaining that could change national or regional political configurations. These efforts are classified as having high transaction costs. Feiock (2009) mentioned that an action that is perceived to reduce the authority of some actors could be classified as a high transaction cost, a barrier to creating close coordination amongst metropolitan actors. Moreover, “the transaction costs of entering or exiting a relationship are highest with collaborative arrangements mandated through governmental authority and lowest with collaborative arrangements based on voluntary relationship and social constraints” (Feiock 2013, p. 401).

3.3.2 Improvement Phase 2: the Spatial Plan of the JMR (2008-2012)

This analysis is not intended to evaluate the performance of spatial planning, but to identify the possibility offered for governing the JMR region. As mentioned before, the Megapolitan proposal failed. The actors involved preferred to govern the JMR through a spatial plan rather than taking a political approach. At the same time as those intensive discussions were taking place, JMR was preparing its spatial plan. It was commonly perceived as a tool for mitigating regional floods after a big flood hit the JMR in 2002. Both the governors of West Java and Banten encouraged the central government to issue this spatial plan. The Minister of Public Work coordinated formulation of this spatial plan. Later, in 2008, it was officially launched through President Regulation No. 54 (The Republic of Indonesia 2008). The JMR spatial plan addresses a number of issues: not only flood mitigation, but also spatial structures and

spatial patterns, transportation, and water supply. Related to the transportation issue, this plan also organizes public mass transport, such as the BRT, train, monorail, and highways. This spatial plan is dedicated to developing a regional transportation system that creates synergy among transportation modes while considering the origin and destination of central activities in the region (land use).

Merely developing an integrated spatial planning, it is not a matter because it does not change an administrative status. (Danny Setiawan, Governor of West Java from 2003-2008, quoted from Muttaqien (2006); translated from Indonesian)

This spatial plan was perceived as a win-win solution for governing the JMR, when compared to the Megapolitan concept. All the involved local governments within the region accepted this spatial plan politically because it did not reduce local autonomy or the authority of local governments. This presidential regulation gave the Minister of Public Work the authority to coordinate technical spatial planning for this region and it explicitly accommodates the existing metropolitan governance model. Inter-organisational coordination and inter-local government cooperation within the region are facilitated by an inter-local government cooperation agency. Each local government in the region operates this spatial plan and it preserves their autonomy. This approach could be classified as localism or public choice (Yaro and Ronderos 2011).

Interestingly, even though the spatial plan was most preferred by the actors involved, the current metropolitan transportation development has been not based on that spatial plan. For example, the recent discourses on the monorail development plans, such as lines from Cibubur in Depok Municipality to Cawang in Jakarta, and also from Sentul in Bogor Regency to Kampung Rambutan in Jakarta, are based on profit calculations from a project initiator. These new plans were not provided for in the JMR development spatial plan. This spatial plan also did not accommodate the extension of the TJ BRT in which its service area was to be operationalized within the border area of Jakarta. Furthermore, it did not clearly state which actor was responsible for developing metropolitan transport. Despite these gaps, this regional spatial plan was

successful in reducing regional political tension and can be seen as a transition that generated further improvement.

Planning is a property of organisation and the transaction costs theory of planning could explain the link among inter-organisational systems (Alexander 1992). The regional spatial plan resulted from a process of coordination between local governments within the JMR and the central government. Based on an institutional design approach, they are more likely to choose coordination as the discussion core of the meso-level. Actors perceived that coordination through regional spatial planning development had lower transaction costs than consolidation of the region, which reduces the authority of actors involved. Coordination was more accepted than a direct political approach.

3.3.3 Improvement Phase 3: Strengthening Inter-Local Governmental Cooperation, Supported by the Central Government (2012-now)

The current metropolitan governance approach in the JMR preserves decentralization and local autonomy. This form of metropolitan governance accepts the political role of the regional agency (i.e., the BKSP *Jabodetabekjur*). Fragmented actors prefer to apply the regional spatial plan as a tool to improve metropolitan governance. Unfortunately, the provided spatial plan still lacks details about developing metropolitan transport. This regional spatial plan does not accommodate the extended service area of the TJ BRT from within the municipality of Jakarta to adjacent districts and does not anticipate the dynamic situation, such as monorail development. Instead, it is part of the provision stage. The region requires increased provision and production of services and infrastructures.

Recently, extension of the TJ BRT from the municipality of Jakarta to the surrounding districts has flourished. The extension is also known as the Busway/the TJ BRT-integrated Border Transit (locally, APTB = *Angkutan Perbatasan Terintegrasi Busway*). This new TJ BRT serves some corridors that connect Jakarta to some strategic locations such as Bekasi Municipality, Bogor Municipality, Bogor Regency, Tangerang Regency, and South Tangerang Municipality. It was also designed to cover Depok Municipality. Textual data mentioned that the Jakarta Transport Department had played a role in implementing this extension, which was made easier after the

Governor of West Java encouraged the services of TJ BRT to reach some JMR districts in West Java. This request was endorsed at an official BKSP *Jabodetabekjur* forum meeting. The BKSP *Jabodetabekjur* acted on this request by communicating and coordinating transportation agencies in the region. As the owner of TJ BRT, the Transport Department of Jakarta is required to meet this demand. This effort was supported by the Ministry of Public Work, which also assisted in the building of a new line (e.g., one that connected Pulogadung in the Jakarta area to Bekasi Municipality) and the Ministry of Transportation which developed supporting facilities.

The current metropolitan transportation developments of the monorail, the TJ BRT and other infrastructure developments have been accommodated by the Ministry of Transportation. In 2013, the ministry officially launched the General Plan of Public Mass Transport Infrastructures in the Jakarta Bogor Depok Tangerang and Bekasi (the JMR administration excluding the Regency of Cianjur) (The Republic of Indonesia 2013). This general plan applies to road-based and rail-based public transit infrastructures, multimodal integration, financial requirements (indicative amount), financial source arrangements (public and private), and development time horizons (2013-2014, 2014-2020 and 2020-2030). This may be the first comprehensive plan for public transportation development covering almost the entire area of the JMR.

These extended services demonstrate that the actors involved rely on a meso-level improvement focused on coordination effectiveness. When the provision issue is clearly accepted by actors involved, the improvement moves to implementation in the production stage. The prominent role of the BKSP *Jabodetabekjur* and the Jakarta Transport Department in coordinating the extension of TJ BRT service areas fills a gap in the regional spatial plan. That coordination does not require a change of governance approach. Moreover, it still preserves local autonomy and uses the space provided by the applied governance approach to utilize the opportunity. Based on the political consensus in the BKSP forum meeting, the BKSP *Jabodetabekjur* and the Jakarta Transport Department actively play roles in enhancing inter-local government cooperation around regional transport. The department arranges and deploys the decided-upon tasks to other relevant actors (e.g., it coordinates surrounding district transportation departments in preparing bus terminals and dedicated lines within their administration). The department also prepares procurement for operators and

makes contracts with bus operators (private companies). Therefore, the third improvement strengthens the second improvement. Within metropolitan governance debates, this improvement could be classified as new regionalism (Yaro and Ronderos 2011).

3.4 Analysis

Findings indicate a need to have an agency that is able and capable of implementing the decided-upon tasks. However, it is still unclear whether this is the case, particularly in identifying another benefit offered by the Jakarta Transport Department to its colleague agencies in districts surrounding Jakarta. This study also found competition among actors (e.g., the Ministry of Transport, the Province Government of Jakarta, and the regional agency, the BKSP *Jabodetabekjur*) for extending the coverage area of TJ BRT from the province of Jakarta to the region. There is competition between other actors: (1) between the Ministry of Transport and the Jakarta Transport Department, in terms of the actor responsible for issuing a permit for an inter-provincial bus, such as TJ BRT and APTB, and (2) between the Ministry of Transport and the BKSP *Jabodetabekjur*, in terms of the actor responsible for arranging and bundling a cooperation agreement for the extended area of TJ BRT and APTB. This competition results from a lack of clearly defined organisation around who is responsible for regional transportation. However, the findings identify that coordination at the meso-level of institutional design should be strengthened by the capacity of actors involved to achieve the decided-upon task. Findings are summarized in Table 3.3.

Table 3.3
Institutional Improvements of Metropolitan Transportation Development

Level	Focus	Institutional Improvement	Metropolitan Governance Approaches	Result	Contributing Factors
Macro	Governance	The 'Megapolitan' concept incorporated into an amendment of the Law of Jakarta	Regionalism	Rejected	This political reform generated a high transaction cost. It failed because this proposal was perceived to reduce the authority of surrounding local governments who would have been impacted by the proposal.
Meso	Coordination	The Development Spatial Plan of the Jakarta Metropolitan Region	Localism/ Public Choice	Accepted, but not effective in guiding the extended development of TJ BRT	<ol style="list-style-type: none"> 1. This spatial plan does not intervene and reduce the local governments' authority. It supports inter-local governmental cooperation. 2. This plan clearly states that public mass transportation would be built to connect Jakarta to surrounded districts. 3. This plan lacks any accommodation of the extended development of TJ BRT from within the municipality of Jakarta to surrounding districts. 4. This plan has no clearly defined institution that is responsible for developing regional public mass transportation systems. 5. Although there are gaps, this spatial plan succeeded in decreasing regional political tension and may also generate further improvement.
Meso	Coordination	Strengthened inter-local governmental cooperation and supported by the regional agency and the central government	New Regionalism	Accepted and more effective	<ol style="list-style-type: none"> 1. The governance approach that preserves local autonomy has not been changed. 2. As an inter-local government cooperation agency, the BKSP <i>Jabodetabekjur</i> is an organisation that is accepted politically by local governments and has a specific role in the provision stage of metropolitan transportation decision. 3. The BKSP <i>Jabodetabekjur</i> is also active in coordinating and deploying decided-upon tasks to other agencies in the region. 4. There is strong support from the central government.

(Source: authors)

3.5 Appropriate Governance for Metropolitan Transportation

This chapter has discussed initiatives of actors involved in providing and producing metropolitan transportation through good governance and appropriate institutional design. Good governance for metropolitan transportation turned out to typically include improved government effectiveness through supra-local cooperation and improved regulatory quality for regional coordination. The JMR case study points to three actual efforts or phases in policy practice to establish appropriate institutional arrangements. The first effort involved the *Megapolitan* concept, which attempted to improve the governance approach in the JMR. The second effort implied improvement through formulating a formal regional spatial plan. The third effort was enhanced inter-local governmental cooperation supported by the central government. Two later improvements occurred at the meso-level, with a focus on coordination.

3.5.1 Effective governance and regional coordination

The notion of institutional design was used to identify and classify the three initial improvements. The first improvement was proposed through the macro-level of institutional design, while the second and third improvements were proposed through the meso-level of institutional design. This study suggests that improvements at the meso-level, focusing on inter-organisational coordination, are more preferable than improvement at the macro-level, which focuses on general governance guidance. Coordination is perceived to incorporate fewer transaction costs than comprehensive governance reform. Governance reform in the context of urban transportation is generally perceived to reduce local autonomy and involve high transaction costs, which are barriers for cooperation (Feiock 2009). The JMR case suggests that government effectiveness (i.e., in the actual development of metropolitan transportation infrastructure and services) lies in improved regional coordination.

Four factors contributing to the current development of TJ BRT were also identified:

1. the governance approach preserving local autonomy has not changed,
2. the role of the BKSP *Jabodetabekjur* as the inter-local government cooperation agency for the JMR is accepted politically by local governments and it has a specific role in the provision stage of metropolitan region transportation decision making,

3. the BKSP *Jabodetabekjur* is also active in coordinating and deploying decided-upon tasks to other agencies in the region, and
4. there is a strong support from the central government.

3.5.2 Appropriate Institutional Design

Based on those factors as indicated by the findings and the analysis, the appropriate institutional design for metropolitan transportation development in the JMR is as follows:

1. At the macro-level, governance involves a mix of decentralized and centralized approaches, which is acknowledged by local government authorities and supported by the central government. The governance arrangement should also be an informal arrangement. This means that provisional decisions are facilitated by a public entity (in this case, the BKSP *Jabodetabekjur*), which then is further implemented in the production stage by another entity, in this case local governments (the Provincial Government of Jakarta/the Jakarta Transportation Department and surrounding district governments of Jakarta).
2. At the meso-level, the coordination mechanism preferred by actors involved in the region is inter-local government cooperation that is supported by the central government and the regional agency. This mechanism is perceived to generate lower transaction costs than regional integration. The required coordination capacity mainly involves capacities to address collective action problems. These capacities refer to the nature of metropolitan transportation services and infrastructures, covering mixed externalities of actors involved, resulting from horizontal, vertical, and functional externalities.

Even though the actors see meso-level improvements as more probable than macro-level improvements, there are actually other options at the meso-level. One alternative improvement would establish coordination for strategic decisions and implementation. This would however require an agency with the ability and the capacity to deploy the previously decided-upon tasks to other agencies and to establish implementation commitments from the other agencies. Therefore, the institutional design required to support planners in safeguarding effectiveness and realizing plans is not only located in arrangements at the macro and meso-levels, but also in the capable actor. Even though the existing Law of Local Polity (the Law No. 32 of 2004),

the government regulation of local government cooperation (Government Regulation No. 50 of 2007) and other ministry decrees promote inter-local government cooperation, this study demonstrates that political and legal aspects should be followed up by capacity building for coordination and cooperation. It is important to remain aware that an actor's capacity could also be supported by private entities (in this case, bus operators).

According to the forms of governance derived from the transaction cost theory, this theory suggests that a unified and hierarchical governance arrangement that integrates horizontally or vertically within a single organisation could be created to minimize transaction costs among actors involved (Alexander 2001). In the case of TJ BRT development, this could involve high transaction costs due to actors who are politically fragmented. To reduce high transaction costs, the Government of Jakarta proposed the *Megapolitan* concept as an embodiment of the single organisation, but the other actors rejected this concept because they believed it reduced their authority. This shows that the unified and hierarchical form could not be implanted in the JMR.

Regarding the role of appropriate institutional design, this chapter concludes that in governing metropolitan transportation in the JMR it may enhance coordination and cooperation (see Table 3.4). Closed coordination and cooperation for the region involves four actors: local governments, the central government, the regional agency, and private companies. They could divide roles that connect them through two functions: provision and production. Provision refers to decision-making, arrangement, and regulation (Ostrom et al. 1993). Regional decisions and arrangements are the responsibility of the regional agency while regulations consisting of regional policy and planning rest with the central government. Production refers to implementation and execution to realize services and infrastructures. Local governments and the central government take the role of implementation and execution as supported by private companies selected through a legal procurement mechanism stipulated in public-private partnership. In this stage, attention should be paid to the role of a local government agency that are be capable of translating decisions into execution. This agency coordinates and cooperates with other agencies in other local governments to implement regional decisions. Actor coordination and participation are, therefore, crucial factors as well. (Voogd and Woltjer 2007).

Table 3.4
Appropriate Governance for Metropolitan Transportation in the JMR

Elements	Roles and Actors
Actors	<ol style="list-style-type: none"> 1. Autonomous local governments (provincial, municipalities, and regencies) 2. The regional agency (inter-local governmental cooperation agency/the BKSP Jabodetabekjur) 3. The central government 4. Private companies
Make decisions, arrangements and regulations (provision)	<ol style="list-style-type: none"> 1. Regional decisions and arrangements= the regional agency 2. Regulations (policy and planning) = the central government
Implementation (production)	<ol style="list-style-type: none"> 1. Execution = local governments and the central government 2. Private companies' support in operating the implementation

Source: authors

3.5.3 Metropolitan Transportation Governance: Meso-level Institutional Arrangements and Actor Coordination

Finding proper fit in terms of governance and institutional arrangements is an essential component of metropolitan governance debates (Alexander 2006, 2007, Marsden and May 2006, Rodriguez-Pose 2013). This is important when sustainable transportation systems are desired (Rietveld and Stough 2004). The JMR covers a large service area that crosses over a multitude of constituent municipalities, regencies, and provinces, and only serves to compound the issue of finding a good fit. This is a crucial factor when considering the context specificity of a region is related to the appropriate institutional arrangement (Stead 2003). The analysis suggests that i) improvements at the meso-level of institutional design are more readily accepted and effective than improvements at the macro-level and ii) the appropriate institutional design for governing metropolitan transportation in the JMR requires enhanced coordination and cooperation amongst four important actors - local governments, the regional agency, the central government, and private companies. These findings, therefore, offer valuable lessons to focus on meso-level institutional arrangements and actor coordination for metropolitan regions around the world that suffer from similar political fragmentation around the metropolitan governance of transportation.

Chapter 4

CHAPTER 4

Coordination Arrangements for Metropolitan Planning to Mitigate Flooding in the Jakarta Metropolitan Region: the Case of the Project of the Ciawi Dam and the Sukamahi Dam

4.1 Introduction

This chapter seeks to discuss coordination arrangements designed to mitigate flooding in Jakarta and the problems associated with them. This chapter analyses an illustrative case using the framework developed in Chapter 2, which focuses on the form of governance (i.e. governance structure) and which is rooted in the theory of Transaction Cost Economics (Williamson, 1985, 1991, 1996, 1998). The framework focuses on institutional setting in the metropolitan region (i.e. metropolitan governance) and nine coordination arrangements (or prototypes) of metropolitan planning. The previous chapter discussed the metropolitan governance approach used in the case of transportation in the JMR, wherein we saw an emphasis on decentralization and inter-local government cooperation, supported by central government and private entities. With that in mind, this chapter focuses on coordination arrangements for flood protection and the dams in the JMR.

This chapter seeks to identify the particular form of governance used in coordination arrangements for metropolitan planning in the JMR designed to mitigate floods in Jakarta and the organisational uncertainties that occur as a result. It uses the case of the project of the Ciawi dam and the Sukamahi dam. The particular form of governance used in coordination arrangements is identified using two steps. First, identification of the instruments used by the multitude of organisations involved in decisions to create coherent policies, plans or strategies and whether or not to build the dams and incorporate such policies into the metropolitan spatial plan for the *Jabodetabekpunjur* (which cover nearly the whole area of the JMR) and local plans, policies, or strategies. This is referred to as coordination capacity. Second, identification of the instruments used by the multitude of organisation involved in the implementation of those policies, plans, or strategies. This is referred to as the coordination mechanism. The instruments used highlight how the organisations

involved manage resource exchanges, whether using market based (incentive, networks), hierarchical (regulations) or hybrid (mixed between incentive/networks and regulations) forms of governance.

This chapter will show that instruments used to establish a specific form of governance to manage resource exchange amongst organisations (information, idea and money) are crucial to creating effective coordination for metropolitan planning. Inappropriate instruments or a lack of instruments will lead to ineffective coordination. Ineffective coordination manifests itself in additional effort, time and costs, which Buitelaar (2004) calls transaction costs. In the case of the dams, there is a debate over whether to include the technical and administrative processes involved in the development of the metropolitan spatial plan and provincial and local spatial plans. This points towards problems with creating coherent plans, policies or strategies for the entire metropolitan region. The implication is that organisations involved needed 13 years to take the collective decision to build the dams, even though the dams are not accommodated in the metropolitan spatial plan. Moreover, once the collective decision was made, the organisations involved also took 3 years to start construction. This extra time was needed because transaction costs existed. This chapter analyses the main coordination instruments used and the uncertainties that they bring, which themselves require extra time and effort (transaction costs), and lead to delays in development.

4.2 Research Question

The framework developed in chapter two contains nine prototypes of metropolitan planning, corresponding to the nine coordination arrangements involved. In particular, this chapter seeks to identify prototypes of metropolitan planning in the JMR and the coordination problems that result. It is argued in this chapter that identifying a prototype for metropolitan planning is important, since it represents the main instruments underpinning various types of coordination capacity and coordination mechanisms involved in metropolitan planning. This chapter will answer sub-research questions 3 and 4 (see Chapter 1). The identification of existing instruments used in coordination arrangements for metropolitan planning and

identification of the corresponding coordination problems will highlight the failures of existing instruments and show what new instruments are needed. We will see that there is a choice between rigid or flexible instruments. The framework developed in Chapter 2 guides us in identifying which instruments enhance coordination in the context of metropolitan planning.

This chapter attempts to answer two sub-research questions:

1. “How can the coordination capacity of metropolitan plan in the JMR be explained with reference to the form of governance adopted?”
2. “How can coordination mechanisms used for developing JMR regional infrastructure projects, be explained with reference to forms of governance?”

These sub-research questions are answered using the framework developed in chapter two.

4.3 Research design and methodology

This chapter relies upon a qualitative case study. Case studies are a method to understand social phenomena (Yin, 2014). Metropolitan planning, which is a social phenomenon that involves a multitude of actors and organisations is suitable to this kind of case study. This research seeks to identify how organisations involved in the JMR coordinate to create coherent plans, policies and strategies and make and implement collective decisions. It also seeks to identify organisational uncertainties, which bring about the need for extra effort and extra time and hamper effective coordination.

4.3.1 Case selection

The project of the Ciawi dam and the Sukamahi dam were selected as case studies. They were chosen because they represents: (1) metropolitan planning in the JMR, wherein multiple organisations create coherent policies, plans or strategies in the metropolitan spatial plan and local spatial plans and implement metropolitan policies, plans or strategies (2) resource sharing among multiple levels of government agencies, namely central government (the Ministry of Public Works), provincial governments

(Jakarta and West Java) and district governments (the regency of Bogor), (3) flood mitigation efforts at the metropolitan region scale, wherein the dam development connects different strategies, policies and plans downstream (in Jakarta) and upstream (in the regency of Bogor) and across one core territory (Jakarta) and others surrounding territories (the regency of Bogor and the province of West Java), and (4) a coordination problem - it took 13 years to build the dam, which implies ineffective coordination and inflated costs.

4.3.2 Research design

This chapter operationalizes the framework of metropolitan planning developed in Chapter 2, which mainly seeks to analyse the form of governance used in various coordination arrangements of metropolitan planning. These are referred to as prototypes of metropolitan planning. It also seeks to analyse the dynamic shifts in coordination arrangements used in metropolitan planning. Coordination arrangements for metropolitan planning consist of coordination capacity inherent in the metropolitan plan, policy or strategy and the coordination mechanisms in place to implement it. Data were collected between January 2014 and October 2016 and analysed (a) to allow for a chronological description of the case study, (b) to identify existing forms of governance relevant to the coordination capacity and coordination mechanism in the context of the *Jabodetabekpunjur* and construction of the dams, and (c) to identify coordination problems and things that require additional time and effort, plus the means through which organisations seek to respond to them.

Coordination is at the heart of metropolitan planning and is shaped by the instruments used. Instruments, whether they rely on incentives, administrative control or a mixture of the two, are used to manage resource exchanges. According to New Institutional Economics, coordination instruments are represented by the form of governance used, whether market based, hierarchical or a hybrid of the two. In this research, the form of governance used is represented by the prototypes of metropolitan planning developed in Chapter 2. A prototype therein uses a typical form of governance, which is developed from the particular instrument inherent in each type of coordination capacity and in type of coordination mechanism. Instruments used can in different ways (see Table 2.8 in Chapter 2).

This chapter seeks to study the coordination arrangements used in the context of metropolitan planning in the JMR to mitigate floods in Jakarta. The selected case study is described chronologically and qualitatively in order to identify instruments used in the coordination capacity and the coordination mechanism and coordination problems that abound. The coordination problems that are highlighted point towards a lack of existing prototypes to manage resource exchanges in the organisations involved.

4.3.3 Data Collection

Data were collected from several sources: interviews, direct quotes from online newspapers, regulations and previous studies. These were selected in order to ensure triangulation of data sources. Triangulation is a method to find different types of data (Olsen, 2004). Data was collected so that a chronological, comprehensive and accurate account could be formulated. Thus, this research seeks to construct a complete story of the dynamic discussions, efforts and events within the organisations involved when building the project of the Ciawi dam and the Sukamahi dam.

This research collects data from multiple sources: direct quotes from online newspapers, in-depth interviews, official studies, policy documents, regulations and other information presented in online newspapers. This data is used to identify the instruments used to shape coordination and which affect the coordination capacity and coordination mechanisms in the organisations involved. When it comes to coordination capacity, the data collected is used to identify the instruments that are used to translate the strategies, plans or policies formulated in the metropolitan spatial plan into local spatial plans amongst constituents of the JMR. When it comes to the coordination mechanism, the data collected is used to identify the instruments used to implement the metropolitan strategy, plan or policy. The instruments used with respect to coordination capacity and coordination mechanisms identified in this research guide our understanding of the particular form of governance used with regards to coordination capacity and coordination mechanisms. Understanding both allows us to identify the particular prototype of metropolitan planning used in the JMR.

To identify the existing coordination problems that increase the time, effort and costs involved, this chapter collects statements from recognized individuals, such as governors, from online newspapers and other quotes representatives from those organisations that were involved. It seeks to identify discrepancies between those statements and existing regulations and conflict amongst existing regulations. Additional time and effort is required to allow for more up to date and accurate information to be obtained before the organisations involved make a decision, to allow for bargaining before organisations involved make joint investments or enforce and implement commitments made. This research found that coordination problems were generated by fragmentation amongst policy entities, which Abbott (2005, 2009) classifies as organisational uncertainty. Abbott (2009) defines organisational uncertainty as “uncertainties about the future intentions, policies, plans, and actions of organisations in the planning environment. Metropolitan areas are complex multi-organisational environments” (p. 505).

In this research, organisational uncertainties are identified from statements by interviewees that point towards a lack of information that brings about difficulties predicting the time, costs and efforts needed in the future. The statement would suggest a lack of or conflict amongst existing instruments or a lack of responsibility of other actors or organisations. In the interviews, I saw that this lack, absence or conflict of existing instruments influenced the work of the organisations involved, but interviewees didn't know of a better response. When interviewees were government officers, this problem resulted in organisational uncertainty. For example: “..now we can understand the current situation. (About) authority, whose authority? This (the dam) is the central government's authority. (But,) why should the provincial government of Jakarta spend much money (for the dam)? Someone suggests to us to give us a grant from central government. Was this country upside down (because a sub-national government gives financial support to the national government)? My question is, is this cooperation?” (a quotation from interview P21). The highlighted statement above shows organisational uncertainty and points towards confusion amongst organisations involved in administrative and budget processes. Statements were checked and validated by the researcher with other sources, such as policy documents, regulations, direct quotes from online newspapers and with other policymakers. Discrepancies between these sources also show that

organisational uncertainty exists. Based on the framework developed in Chapter 2, collected data were classified into coordination capacity and coordination mechanism. Particular data collected for coordination mechanisms then were coded into two groups: first, collective decision making processes and second, technical and administrative processes.

Effective coordination is coordination that involves less time, fewer costs and less effort. It is argued in this research that when existing instruments cannot cope with organisational uncertainties, the time, costs and effort required will increase. Mack (1971) argues that uncertainty generates uncertain costs. Williamson (1985, 1996) argues that uncertainty is one of the sources of transaction costs. High transaction costs will reduce effective coordination for metropolitan planning. However, this research did not measure transaction costs quantitatively, in term of how much money was spent. It is frequently difficult to measure transaction costs, given that they are not explicitly stated (Buitelaar, 2004; McCann, et al, 2005). Where it was difficult to collect data, this research elicits understanding of transaction costs from statements by interviewees, such as, “it needs a long time and a long (process)..” or “we invite them” (R11, 2014). These statements suggest that additional time and effort is required to transfer ideas or to encourage resource exchanges. So, here in this research, transaction costs are represented by additional time and efforts.

In addition, to identify potential transaction costs, this research looks for a lack of, or conflict between, existing formal rules and data obtained from in-depth interviews and from direct quotes in online newspapers that suggest that extra time and effort is required in the future. For example: “Later, they (provincial parliament members) will make a decision whether to approve or not, won't they? Therefore, at the plenary meeting, we invite them, we involve them. At the moment of the signature ceremony of the Memorandum of Agreement, we also involve the Speaker (of the Provincial Parliament), because, during the budget process and execution, the implementation will also involve them” (a quotation from interview R11). The statement highlighted above suggests potential transaction costs, such as costs related to coordination and organising future meetings.

Interviewees and those quoted in online newspapers were those who knew about and were involved in the project of the Ciawi dam and the Sukamahi dam. They were identified in the first stage of data collection, which involved document analysis of online newspapers. Interviewees were officers from the Ministry of National Development Planning/the National Development Planning Agency, the Ministry of Public Works (the Major Agency of Ciliwung Cisadane River Basin/MACCRB), the Ministry of Home Affairs, the provincial government of Jakarta, the provincial government of West Java, the regency government of Bogor and the Secretariat of the BKSP *Jabodetabekpunjur* (see Appendix 4.1). The second stage involved in-depth interviews with open questions (see Appendix 4.2). Through these in-depth interviews, we were able to construct a chronological, empirical case study and to identify organisational uncertainties as the source of transaction costs, which brought about coordination problems. This research relied on information from a range of online newspapers, mainly *kompas.com*, *detik.com* and *tempo.co* (see Appendix 4.3), and selected quotes from high-profile individuals, such as ministers, the directorate general, the governor, the vice governor, the regent (the mayor in rural districts) and local citizens. Direct quotes collected were used to identify the source of transaction costs and to construct the empirical case study. Other data was collected from relevant regulations (see Appendix 4.4) and relevant official studies (see Appendix 4.5).

4.3.4 Analysis

This research analyses the coordination capacity of the metropolitan spatial plan and analyses the coordination mechanism of the organisations involved in the construction of the dams using qualitative data analysis techniques. Qualitative data analysis was conducted in two stages. First, to identify the main instruments used to manage the coordination capacity of the metropolitan spatial plan influencing local spatial plans and to identify organisational uncertainties that resulted in coordination problems (see Section 4.5). Second, to identify the main instruments used to coordinate the organisations involved in the dam-building projects and to identify organisational uncertainties that resulted in coordination problems (see Section 4.6).

4.4 Introduction to the case study

This chapter presents and analyses coordination arrangements associated with metropolitan planning in the JMR using a case study. The case study will focus on how various organisations coordinated in order to mitigate flood risk in Jakarta by sharing their resources to build the Ciawi and Sukamahi dams in another territory of Jakarta. It also focuses on the organisational uncertainties that existed and how they led to coordination problems. Flooding is an acute problem in Jakarta (Caljouw, Nas and Pratiwo, 2005; Steinberg, 2007; Akmalah and Griggs, 2011; Ward, et al, 2013) which needs to be overcome because of the impact it has on the economy, the hundreds of lives lost and the hundreds and thousands of evacuees it brings about (Bappenas, 2007; Sagala, et al, 2013). To understand the cross-border and multi-organisation coordination involved in mitigating flooding in Jakarta, the case study analyses the development of the Ciawi dam and the Sukamahi dam. These will be discussed in terms of two scopes of coordination arrangements:

1. Coordination capacity, or how the organisations involved create coherent policies, plans and strategies for the JMR to mitigate flooding in Jakarta through by developing spatial plans associated with the two dams (see Section 4.5).
2. Coordination mechanisms, or how the organisations involved coordinate to develop the two dams collectively through resource sharing, both in the decision making stage, but also during implementation (see Section 4.6).

4.4.1 Initial coordination to develop the project of the Ciawi dam and the Sukamahi dam

The need for the (new) Ciawi dam and the Sukamahi dam stemmed from the (old) Ciawi dam. Acute floods in Jakarta generated proposals for comprehensive solutions to mitigate floods that relied upon a strategy that focused on mitigation in Jakarta and upstream. Based on the work of JICA (1997), a dam located upstream of Jakarta was proposed in order to reduce rainwater flow to Jakarta. In 2001 the provincial government of Jakarta proposed to central government that the (old) Ciawi dam, which is located in the regency of Bogor, in the province of West Java, be constructed. However, the local community and the local legislature in the regency of

Bogor was against the idea. Accordingly, the central government postponed the project. Other concerns that led to it being postponed were a lack of financial capacity, reluctance from non-governmental organisations (NGOs) and donors and different perspectives on its value for money. Later, when the provincial government of Jakarta perceived that the central government did not support development of the Ciawi dam, the governor of Jakarta, Mr Sutiyoso, in 2005-2007 proposed the Megapolitan concept, which proposed that the *megapolitan* government of the JMR would be better able to build the (old) Ciawi than central government (Sutiyoso, 2007, p. 125; see also Hidayat Putra, Woltjer and Tan, 2016). However, the concept failed. Then, in 2008 the next governor of Jakarta, Mr Bowo, also attempted to develop the dam. He asked central government to accommodate the Ciawi dam in the metropolitan spatial plan. By doing so, it was hoped that central government would offer its support for the dam. However, it did not do so.



Source: personal collection



Source: the Ministry of Public Works, 2013, p. 65

Figure 4.1
The Jakarta showcase flooded in 2013

The last major flood in Jakarta happened in early 2013 and saw many roads flooded, including famous landmarks such as *Bundaran HI* (the Indonesia Hotel Circle) and all its axis roads (see Figure 4.1). *Bundaran HI* is well known and in one of the premium locations in Jakarta. This major flood stimulated the new governor of Jakarta, Mr Widodo, to revitalize an old proposal to build the (old) Ciawi dam. The governor asked the central government to support and to accelerate the (old) Ciawi dam construction.

The (old) Ciawi dam was one of a number of flood mitigation projects prepared by the

<p style="text-align: center;">Box 1</p> <p>Actually, the (old) Ciawi dam was planned to substitute an original project, a new canal in the upstream area of Jakarta connecting the Ciliwung river and the Cisadane river. This new canal would have been located in the municipality of Bogor, and would transfer rain water from the Ciliwung river to the Cisadane river. This idea was rejected by citizens in the downstream area of the Cisadane river, citizens who live in the regency of Tangerang and those in the municipality of Tangerang. Citizens rejected the plan because they did not want the transferred rain water to flood their area. As a result of this rejection, the central government developed an alternative plan to reduce water volume flowing to Jakarta by changing the new canal project to the (old) Ciawi dam, upstream of Jakarta.</p>	<p>central government. However, there was a debate over whether to build the Ciawi dam or not. Those debates had both technical and social elements. In early 2014, after 13 years of discussion, debate and research, the decision was taken to build the Ciawi dam by sharing the resources of organisations involved. However, the decision was also taken to build two smaller dams: the (new) Ciawi dam and the Sukamahi dam (see Figure 4.2). The organisations involved and their promised contributions are presented in Table 4.1.</p>
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Table 4.1
The Organisations Involved and Their Committed Contribution
to Build the Ciawi Dam and the Sukamahi dam

No.	Organisation	Committed Contribution
1.	The central government (the Ministry of Public Works)	Construction and its cost
2.	The Provincial Government of the of Jakarta	Land acquisition cost
3.	The Provincial Government of the West Java	Organize land acquisition process

No.	Organisation	Committed Contribution
4.	The Regency Government of Bogor	Land acquisition implementation

Table 4.1 demonstrates how governors, regency and decision makers (i.e. the director general) from the central government supported and offered a commitment to build the dams by encouraging inter-local government cooperation. They committed to contributing resources to build the dams. However, there had been dynamic debate, discussion and research before they offered these commitments (see Section 4.5). Even though the dam falls under the authority of central government, for a number of reasons central government itself didn't build it, mainly because of a lack of financial capacity. The governor of Jakarta didn't propose to build the dam using Jakarta's budget or on the basis of the *Megapolitan* concept, but decided to assist central government to support the financing of land acquisition for the sites of the dam and asked the governor of West Java and the regent of Bogor to manage the land acquisition process (see Section 4.6). Jakarta, which has a huge annual budget, didn't seek to expand its power or annex the regency of Bogor in order to mitigate its flood risk, but preferred instead to encourage inter-local government cooperation. Because of the failure of the *Megapolitan* proposal, the organisations involved preferred to govern the JMR using inter-local government cooperation supported by the central government and private entities.

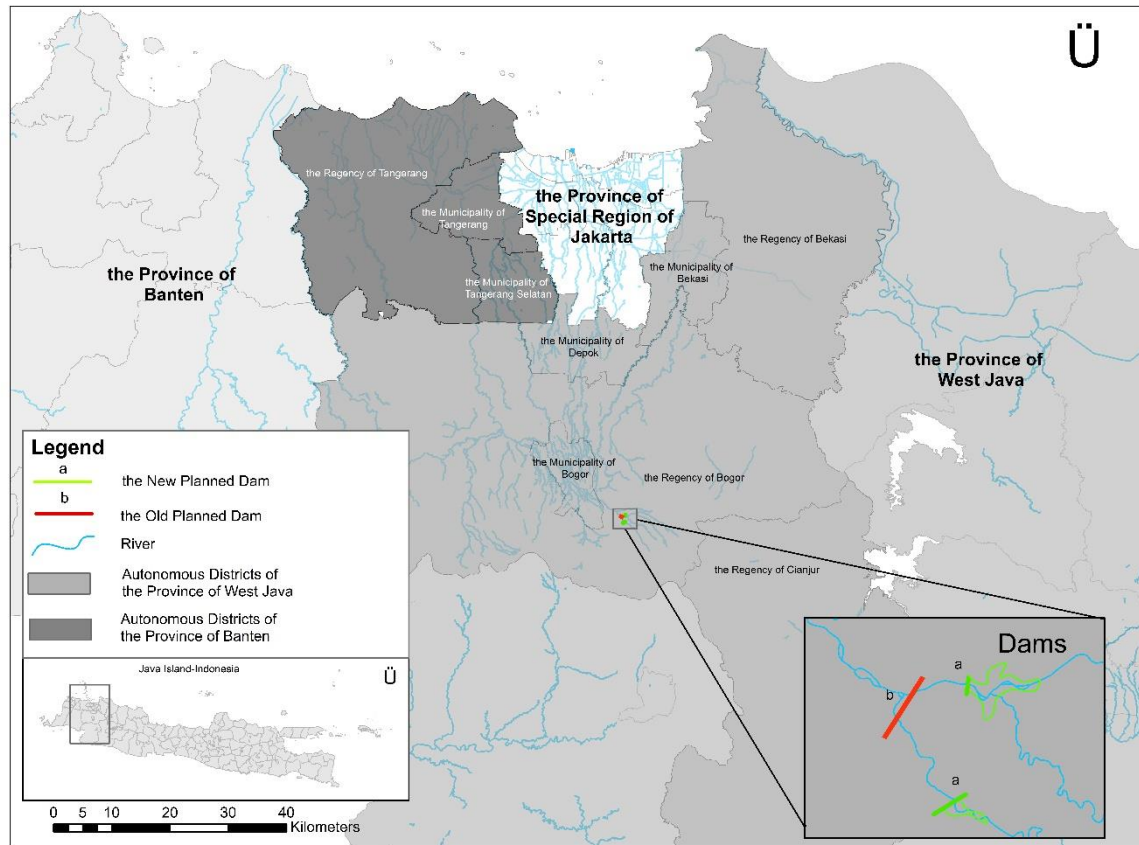


Figure 4.2

The Location of the Ciawi Dams

4.4.2 The Indonesian planning system and implementation in the metropolitan region

The Indonesian planning system is decentralised, allowing for local autonomy. It is comprised of three systems: a spatial planning system, a development planning system and a budgeting system. The spatial planning system, which is formally enacted in Law No. 26 of 2007 on Spatial Planning, asks each province and each district to develop their spatial plan for their administrative territory. However, the law also dictates that the Indonesian central government must develop a national spatial plan, an island spatial plan and a strategic area spatial plan. The JMR is one of Indonesia's strategic areas (see the Government Regulation of 2008 on the National Spatial Plan in Appendix X), meaning that central government has responsibility for developing the metropolitan spatial plan for the JMR. As a result, metropolitan planning for the

JMR is governed by three spatial plans: (1) the *Jabodetabekpunjur*, covering almost all areas of the JMR, (2) the spatial plan of the provinces (the province of Jakarta, the province of West Java and the province of Banten) and (3) the spatial plan of the nine relevant districts. Alongside the national government, provincial and district governments develop their own strategic areas. Both sub-national governments (provinces and districts) prepare a spatial plan for strategic areas and detailed-spatial plans. The detailed-spatial plan is developed when the contents of the spatial plan still cannot be operationalized, such as to guide zoning or as a technocratic base to issue permits for land development and construction.

Implementation of metropolitan planning is influenced by the national development planning system, which was formally enacted through the Law No. 25 of 2004 on the National Development Planning System and by the budget system, which is formally enacted through Law No. 17 of 2003 on the Finance State. According to the Law on the National Development Planning System, the spatial plan is treated as one of the inputs for development plans. The development plan consists of a vision, mission, strategy, programmes, projects, expected outputs and outcomes and an indicative budget. The development plans are developed to systematically integrate the long-term development plan (the planning period is 20 years), the medium term development plan (5 years) and the government work plan (1 year). According to both laws, the Government Work Plan (the Indonesian annual development plan) contains details on the projects to be financed in the next year's budget and serves as an input for the budget plan. So, for the implementation process, the planned projects need to be accommodated in both the development plan and budget plan. The final decision over financing the projects is decided in the budget meeting between the executive and the legislative in parliament.

Since the Indonesian metropolitan regions do not have a regional political structure or a legitimate metropolitan government, there is not specific development plan for the metropolitan region. Due to the absence of this regional political structure, the development plan of the metropolitan region, as well as the metropolitan budget plan, is fragmented across every single constituent authority in the metropolitan region. Facilitated through national policies on decentralization and inter-local government cooperation, collective decisions for metropolitan regions are discussed in

coordination meetings of organisations involved and accommodated in respective development and budget plans.

In general, provincial and local governments use annual budgets to implement a plan, policy or strategy. This annual budget comes from inter-governmental transfers, local-owned revenue and other financial sources. These financial sources are governed by Law No. 33 of 2004 on Financial Balance between the Central Government and Local Politics. Law No. 33 of 2004 regulates how each province and local government receive funds and generate revenue. There is not a specific policy that obliges central government to provide inter-governmental funds for a region or to a constituent of a metropolitan region.

4.4.3 Institutional setting of the JMR

As discussed in Chapter 2, the institutional setting of the metropolitan region influences the preference of the organisations involved and the governance approach that they take. Acceptance of the organisations involved is crucial aspect in creating a particular coordination arrangement for metropolitan planning. As regulated by the Indonesian Constitution and the Law of Local Polity, each district and each province in the JMR is an autonomous entity, and since the Indonesian system does not recognize the metropolitan regional government, the JMR does not have a metropolitan regional government. With that in mind, as discussed in Chapter 3, an effort to integrate and to establish a metropolitan government in order to enhance effective coordination for the entire JM through the *Megapolitan* idea was rejected. The organisations involved in the JMR preferred to govern the metropolitan region using inter-local government cooperation, supported by the central government and private entities. Inter-local government cooperation is accepted by the organisations involved because it does not reduce the authority of constituent provinces in the JMR. The preference for this metropolitan governance approach in the JMR was used by the new governor of Jakarta to realize proposals to build the dam in the regency of Bogor to reduce floods in Jakarta. In 2014, the governor of Jakarta received support from the central government, the governor of West Java and the regent of Bogor to build the dams.

4.5 Analysis of the coordination capacity of the metropolitan spatial plan, the *Jabodetabekpunjur*

Coordination capacity is the first of the two scopes of coordination arrangements underpinning metropolitan planning. Coordination capacity is analysed to identify how organisations involved coordinate to create coherent policies, plans or strategies for the entire metropolitan region. In the JMR, the coherent policies, plans and strategies are represented by coherent content in the metropolitan spatial plan (covering Jakarta, Bogor, Depok, Tangerang, Bekasi, Puncak, Cianjur) and the content of other relevant spatial plans, including the spatial plans of the autonomous provinces and districts in the JMR. The current metropolitan spatial plan was enacted by presidential regulation in 2008. It manages almost all areas in the JMR, although not all areas in the district of Cianjur are covered. Puncak is not an autonomous district, given that it spans part of the regency of Bogor and a part of the regency of Cianjur, but it is mentioned explicitly in the metropolitan plan to demonstrate a strong concern for environmental issues and land-use changes in Puncak. Land-use change in Puncak was understood to contribute to the floods in Jakarta.

Based on the framework developed in Chapter 2, coordination capacity is represented by the type of plan, whether a master plan using administrative control instruments, a strategic plan using incentive instruments, a master-strategic plan, a strategic-master plan or a programme-based plan, using mixed-instruments. In this section, the issue of coordination capacity of the metropolitan spatial plan is discussed in order to see how the organisations involved coordinated to mitigate flood risk in Jakarta and create policies that allowed for construction of the dam. The coherent policy, plan or strategy for the entire JMR in the case of the dam development can be achieved when a decision to build or to not build the Ciawi dam was accommodated in the metropolitan spatial plan and other relevant spatial plans (i.e. the spatial plan of the province of West Java and the spatial plan of the regency of Bogor).

4.5.1 Type of existing metropolitan spatial plans

On the basis of the data collected, this study showed that (1) the existing metropolitan spatial plan had a legal status that was enacted through presidential decree, (2) the

existing metropolitan spatial plan gives guidance and regulations that informs spatial plans in relevant districts and provinces in the JMR (i.e. it is a hierarchical plan), (3) spatial plans, particularly those in the districts (whether municipality and regency), give legal certainty for land development (i.e. they are a regulatory plan), and (4) the existing metropolitan spatial plan does not have a time limit, but instead is reviewed once every five years. With these four factors in mind, this section argues that the metropolitan spatial plan is a type of **master plan** that all constituent authorities must consider when developing local spatial plans.

Given that it is a master plan, the central government uses administrative control instruments through a hierarchical process to develop the metropolitan spatial plan. The spatial plan of the provincial government has legal status as a provincial government regulation (*perda provinsi*). The hierarchical process means that the draft of the spatial plan of the province should be consulted first by central government. Consultation is conducted in coordination with the National Spatial Planning Coordination Agency (BKPRN, *Badan Koordinasi Penataan Ruang Nasional*) before being deliberated by the provincial parliament. The spatial plan of the districts (whether regency and municipality) has legal status as a district government regulation (*perda kabupaten/kota*). To prepare the spatial plan for the districts, the district government should consult the provincial government (i.e. the Provincial Spatial Planning Coordination Agency) to gain approval before it is deliberated by the district parliament.

Importantly, the spatial plan of the district is used as a legal base to regulate land development and to issue building permits for new physical development. New development requiring a building permit should ensure that the new development has been accommodated in the existing spatial plan. When the new development is important, but was not previously incorporated into the existing spatial plan, the government should review and revise the existing spatial plan in order that it can be accommodated.

4.5.2 Coordination problems occurring in the master plan when creating coherent spatial plans for the entire JMR

a. Fragmentation

As discussed in Chapter 1, the JMR does not have a metropolitan regional government and is fragmented into several autonomous provinces and districts. Moreover, since the new policy of decentralization and local autonomy was implemented in 2001, fragmentation of the JMR increased (see Appendix 1.1). Administrative control instruments are used to manage coordination in the case of fragmentation in the JMR. However, even though coordination capacity between the metropolitan spatial plan and other relevant spatial plans has been designed as a type of master plan that uses administrative control instruments to establish a regulatory plan within the entire JMR, the organisations involved had different responses to proposals to build the (old) Ciawi dam. Those responses to the (old) Ciawi dam development are represented in their respective spatial plans, as shown in Figure 4.3.

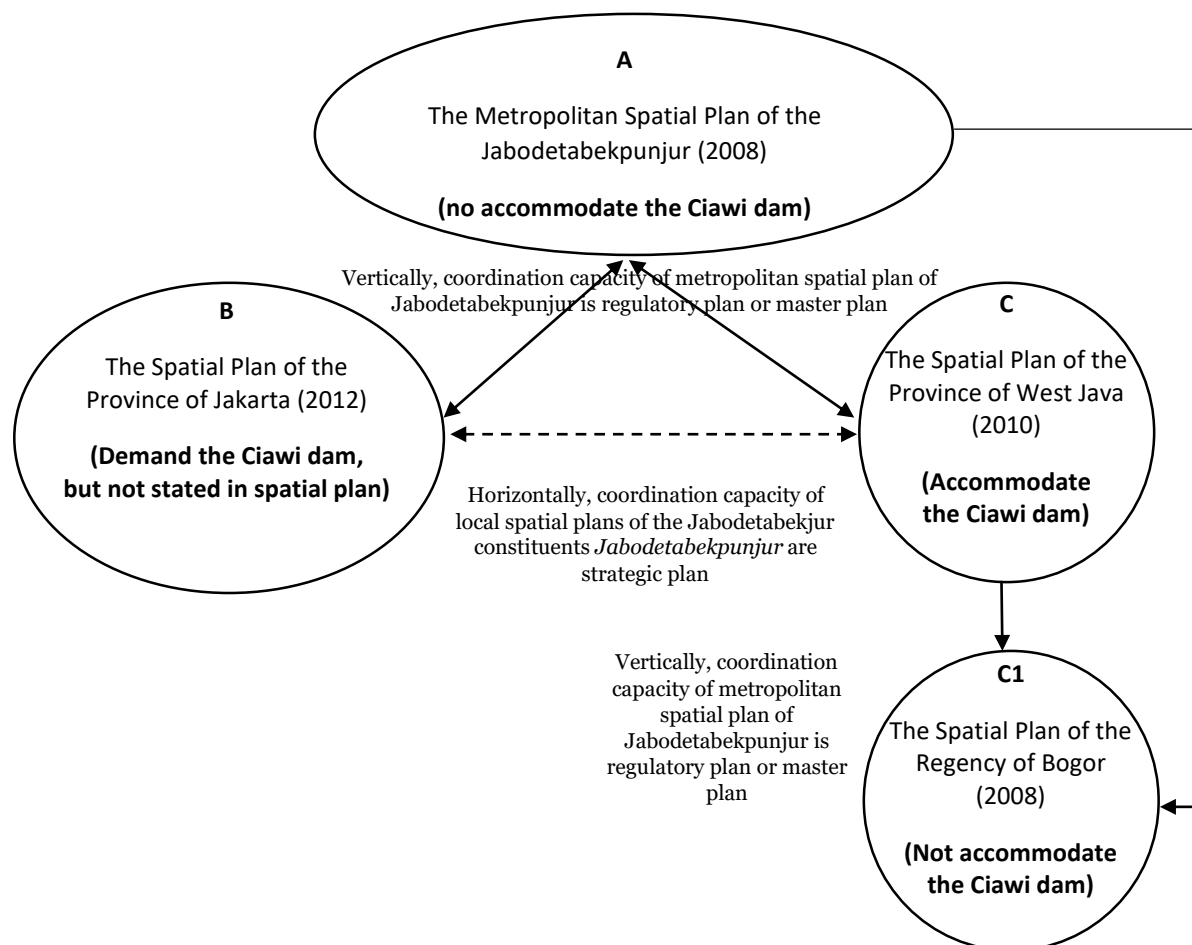


Figure 4.3

Configuration of spatial plans in the JMR to address flood in Jakarta

Figure 4.3 shows the relationship between spatial plans in the JMR and shows the different responses of the organisations involved when seeking to create coherent plans, policies or strategies governing the dams. The metropolitan spatial plan (A on Figure 4.3), enacted in 2008, does not accommodate the (old) Ciawi dam because the central government decided not to build the (old) Ciawi dam. Because the metropolitan spatial plan was designed as a master plan, it should be followed by all relevant spatial plans, including Jakarta's spatial plan (B on Figure 4.3). In the case of the (old) Ciawi dam, the metropolitan spatial plan was followed by the spatial plan of the regency of Bogor (C1 on Figure 4.3), which was also enacted in 2008. The spatial plan of the regency of Bogor followed the decision by central government to not accommodate the (old) Ciawi dam. Thus, neither spatial plan accommodates the Ciawi dam. The configuration shows the existing administrative control instrument's success in managing coordination between the central government and the regency.

In addition, the regency of Bogor also thought that proposals to develop (old) Ciawi dam were the remit of the governor of Jakarta. The Ciawi dam was not perceived as a centrally strategic project. This was discussed by one interviewee, who said:

“... It had been planned that there was to be the Ciawi dam in local regulation number 17. Spatial planning? It was included, we had tried to accommodate it. The idea to build the dam had arisen. When we revised the spatial plan of 1998, we asked the provincial government, we also asked the central government, the Ministry of Public Works. They said, there was not a study into it. The Ciawi dam, it has been proposed by Sutiyoso (the Governor of Jakarta). It was an idea from the province. Yes, the Governor of Jakarta. (It was) an idea of the Governor of Jakarta. Because of that, we dropped the plan. We did not have a reference to the Ciawi dam...”

(Interviewee L11, 2014)

The statement represents the unclear plans, policies or strategies in place to mitigate flooding in Jakarta that resulted from the fragmented strategy employed across the JMR. Fragmentation means that each province or district has its own strategy to develop in their respective territory. Because of this, the spatial plan of the regency of Bogor was developed without accommodating the Ciawi dam.

However, the spatial plan of the province of West Java (B on Figure 4.3), enacted in 2010, has accommodated the Ciawi dam. The provincial government of West Java, where the dam is located, may have had an incentive to be perceived as being supportive of flood mitigation in Jakarta. The administrative control instruments could not manage relations amongst the two provincial governments to develop the spatial plan. The spatial plan of the province of West Java, which was formulated based on the autonomous policies and strategies adopted in the province of West Java, accommodated insight from previous discussions, such as those surrounding the *Megapolitan* concept. Fragmentation generates difficulties in creating coherent plans, policies and strategies for the entire JMR.

b. Adaptation

This research found that administrative control instruments used in coordination capacity come up short when faced with dynamic demands or decisions. For example, a new policy developed by the province of West Java, one of constituents of the JMR, led to organisational uncertainties. This led to unclear guidance for the organisations involved over whether or not to build the dam. In addition, another study conducted by the Ministry of Public Works demonstrated that there were many deviations between the contents of the metropolitan spatial plan and development on the ground (the Ministry of Public Works, 2013).

Dynamic demands, such as the need to develop the dams in order to mitigate floods in Jakarta, are not accommodated in spatial plans. Existing spatial plans managing the JMR cannot manage changing demands. The organisations involved, facilitated by the BKSP *Jabodetabekjur*, used another forum, coordination meetings, to collectively decide whether and how to build the dams. The existing spatial plans cannot adapt to change or opportunities very quickly. Thus, they did not use the existing spatial plans as a base to take collective decisions. As described later in Section 4.6, when the dams were finally built, the relevant spatial plan, i.e. those in the regency of Bogor, the province of West Java and the *Jabodetabekpunjur*, needed to be revised to accommodate a new collective decision to build the dams. Even though the spatial plan in the province of West Java had already accommodated the Ciawi dam, it too needed to be revised, since the dam was separated into two smaller dams and the location was

changed. Permits to build the dam cannot be issued before the dams are accommodated in the spatial plan. However, any revision of the spatial plan requires effort, cost and time (see Section 4.6). As a result, revision of spatial plans will delay the development of the dams.

4.6 Analysis of the coordination mechanisms used to build the Ciawi dam and the Sukamahi dam

Coordination mechanisms are the second scope of coordination arrangement in metropolitan planning. The coordination mechanism is a mechanism required to coordinate implementation of a plan, policy or strategy. It can consist of processes that connect its contents to the metropolitan spatial plan and its implementation. Ostrom, Schroeder and Wynne (1993) argue that these processes involve collective decision-making, finance and production arrangements and regulatory elements. Following on from this, in this research, as we saw in Chapter 2, coordination mechanisms consist of collective decision-making and technical and administrative processes.

In the case of the two dams, after long debate, discussion and research, facilitated by the BKSP *Jabodetabekpunjur*, a number of key representatives of the organisations involved met on January 20, 2014, in Katulampa weir, in the Regency of Bogor. They included:

1. The Director General of Water Resource Management, the Ministry of Public Works,
2. The governor of Jakarta,
3. The governor of the West Java,
4. The regent of Bogor,
5. The mayor of Bogor,
6. The vice mayor of Depok,
7. The vice mayor of Bekasi,
8. The vice-regent of Bekasi,
9. The assistant of the provincial government of Banten,
10. A representative of the state-owned forest enterprise (*Perum Perhutani*),

The Governor of Banten, the Mayor of Tangerang and the Regent of Tangerang were invited, but did not attend. That meeting was facilitated by the BKSP *Jabodetabekjur* (Interviewee, R11, 2014). At the meeting, they agreed to build the (old) Ciawi dam, which would be modified into two smaller dams, the (new) Ciawi dam and the Sukamahi dam, and would be located higher than the (old) Ciawi dam (see Figure 4.2). This change was a technical solution to minimise potential hazards or disasters. The proposal to build the (old) Caiwi dam finally was approved, albeit with modifications.

4.6.1 Types of coordination mechanism used to build the dams

Implementation of the metropolitan policy, plan or strategy is recognized as a difficult part of metropolitan planning (see for example McCarthy, 2011). Based on the framework of metropolitan planning developed in Chapter 2, this chapter divides coordination to implement the dam projects into two elements: the first is related to collective decision-making and the second to technical and administrative processes. To analyse the type of coordination mechanism, this section identifies instruments used in each:

a. Collective decisions

When it came to collective decisions, this study found that instruments used include incentive intensity instruments. Incentive intensity instruments were used by the organisations involved since the existing regulations or official policy documents that applied did not provide guidance for the development of the (new) Ciawi dam and the Sukamahi dam. In the case of the two dams, this study found that the collective decision taken on January 20, 2014 was intended to address major floods in 2013 and in early January 2014.

The organisations and actors involved in the collective decision were driven to four incentives:

1. To obtain political capital, given that they would be perceived as taking the matter of flooding seriously.
2. To obtain political benefits, given that they would be seen to support Mr Joko Widodo, the governor of Jakarta and one of the strongest candidates in the presidential election in 2014.

3. The Ministry of Public Works, the authority that would develop the dams, would be supported financially and would benefit from building the dams since the provincial government of Jakarta would help to finance the land acquisition required.
4. Since the (old) Ciawi dam would be divided into two smaller dams, the (new) Ciawi dam and the Sukamahi dam, the risk of dam failure was minimised. This new plan encouraged the organisations involved to agree on the development of the dams.

b. Technical and administrative process

When it came to technical and administrative processes, incentive intensity instruments were again used. Even though each organisation is a government entity working in accordance with laws and regulations, since the dams will be developed through resource sharing, they need relevant laws and regulations to manage the cooperation technically and administratively. However, there are fewer rules framing cooperation and which safeguard them, mainly administratively, when sharing resources. Rules needed to be made over the ownership status of collective assets, such as the dams. Interaction and cooperation, particularly when it comes to managing resources, might be bought about by the incentives that they expected to gain (as discussed above).

According to the framework of metropolitan planning developed in Chapter 2, instruments used in coordination mechanisms show that the organisations involved in the JMR use incentive intensity instruments that can be classified as a type of **informal-discontinuous mechanism**. Informal-discontinuous mechanisms are associated with market forms of governance. However, within this mechanism, no organisations involved can force others to enact the collective decisions that were made. Implementation of the collective decision relies on individual policies, strategies and capacity.

4.6.2 Coordination problems that occurred in coordination mechanisms associated with the dams

As mentioned previously, coordination mechanisms relied upon an informal-discontinuous mechanism and used incentive intensity instruments. The organisations involved cooperated on the basis of the incentives they expected to receive. However, to make cooperation and resource-sharing work more smoothly, the benefit obtained should be more than the cost. In order to anticipate annual floods, dam construction should be conducted swiftly. However, the implementation process took a large amount of time, which shows that there were shortcomings in the existing instruments used. The next section will describe these in more detail.

a. Coordination problems that occurred with existing instruments used in collective decision making

A lack of a metropolitan government and fragmented policies in the JMR influenced how the organisations involved made decisions that impacted them and the metropolitan region. In addition, the metropolitan spatial plan, enacted in 2008, does not accommodate the dams. The (old) Ciawi dam required high levels of investment, which meant that the Ministry of Public Works would not finance it. Moreover, the dam was vulnerable, since it was located near to an active volcano, Mount Pangrango. Donors, non-government organisations and local citizens were also reluctant to build a new dam. So, the central government took a decision to not build it. Jakarta though was most interested in its construction; the central government, through the Ministry of Public Works, also tried to realize the dam. This chapter will show that there were four types of coordination at play when deciding on dam development: (i) Coordination emphasizing the role of the central government (2001-2008), (ii) Coordination led by the metropolitan government of the JMR through the *Megapolitan* concept (2006-2008), (iii) Coordination guided by the metropolitan spatial plan of the *Jabodetabekpunjur* (2008-2014), and (iv) Coordination through inter-local government cooperation supported by the central government (2014). As mentioned earlier, the first three types of coordination were used to develop the (old) Ciawi dam, but failed to lead to agreement.

This chapter shows that efforts to take decisions to develop the dam in the fragmented JMR were not supported by metropolitan planning using administrative control

instruments. Administrative control instruments regulate each organisation. However, those used did not lead to organisations involved seeking out the resources necessary to finance the construction of the dam. The Ciawi dam development relied on three types of coordination mentioned above: first through the central government to finance it, whether through the regular sectoral plan of the Ministry of Public Works, second through the *Megapolitan* government, or third through the metropolitan spatial plan. With this in mind, it is argued here that administrative control used for metropolitan planning could not overcome the lack of finance. This can be classified as a type of organisational uncertainty, because it made development of the Ciawi dam difficult. It also brought about uncertainty over the future intentions and actions of the organisations involved in the JMR.

However, after 13 years of discussions, debates and research, a fourth type of coordination (coordination through inter-local government action supported by the central government) finally led to agreement on the development of the (old) Ciawi dam, which would be developed using financial burden sharing and would be built as two smaller dams. The main difficulty concerning a lack of finance was solved through the organisations involved engaging in budget sharing (as shown in Table 4.1). Through budget sharing, investment in the dam was divided into two components: the cost of land acquisition and the cost of the dam's construction. The province of Jakarta would provide the budget for land acquisition and the Ministry of Public Works would provide a budget for the dam's construction. The decision was not generated by existing administrative control instruments. A lack of a hierarchical form of governance provided incentives for the organisations involved to establish a market form of governance that relied upon incentive intensity instruments.

Even though the collective decision to build the dam was made using incentive instruments, the arrangement brought about legal concerns because the processes required for its successful implementation would undermine existing formal rules (Kuwado, 2014), particularly concerning the authority to build the dam and authority to acquire land. This issue is related to the transfer of Jakarta's budget to the regency of Bogor and the asset status of the dam. The resource sharing arrangement amongst local governments and the central government was not known and made it difficult to define the precise ownership status of the dam.

b. Coordination problems that occurred in the technical and administrative processes

Technical and administrative processes were required to realize the decision to build the dams. According to the data collected, including existing regulations concerning dams, this chapter identified eleven steps: (1) to develop a Memorandum of Understanding (MoU) and a Memorandum of Agreement (MoA), (2) to prepare Feasibility Study (FS), (3) to prepare an Environmental Impact Assessment (EIA), (4) to develop a Detail Engineering Design (DED), (5) to establish the team for land acquisition, (6) to revise the spatial plan of the regency of Bogor, (7) to establish the Ciawi dam preparation team (which was proposed by the BKSP *Jabodetabekjur*), (8) to prepare a budgeting process and budget allocation for land acquisition, (9) to determine the financial transfer status of the land acquisition process from the provincial government of Jakarta to the regency government of Bogor, (10) to prepare a budgeting process for the construction of the dams (11) to determine the profit sharing mechanisms, maintenance obligations and ownership status of the dams after the construction ends. Some processes required specific technical rules, such as developing a FS, EIA and DED. Some processes may also need inputs that resulted from other processes, such as acquiring land for the dams and revising spatial plans to accommodate them. Others require specific rules for framing or regulating resource exchanges. Here, resources refer to money, ideas, sites and authority.

i. Coordination problems in technical work

This chapter is mainly concerned with coordination between the organisations involved in implementing the decision to build the Ciawi dam and the Sukamahi dam. The main requirement for the development of the dams is land. However, before the land is acquired, the site needed to be accommodated in the spatial plan in order to provide a legal basis for land acquisition. Because the spatial plan of the regency of Bogor did not accommodate the dams, it needed to be revised first. Similarly, before land is acquired, the government needed to launch a public campaign to discuss the implication of the dams for the local community. Since the site was still not determined, the government had difficulties defining the physical border of the site for land acquisition and these kinds of campaigns. The site also needed to be subject to a feasibility study, needed to define the site of the dams in the spatial plan. When the

spatial plan for the regency of Bogor needed to be revised – which took additional time – the land acquisition budget that had been allocated in Jakarta’s budget could not be used. The provincial government of Jakarta then withdrew the budget. These processes are linked to one another and created uncertainty and delayed construction. Delays like this increase the risk of flooding.

Here, spatial planning plays a crucial role because it becomes a legal base for land development. The decision to build the dams led the regency government of Bogor to revise its spatial plan, for central government to revise the metropolitan spatial plan and the provincial government of West Java to revise its spatial plan. The spatial plan not only gives guidance for the future, but it is needed to legalize and to control land development. However, finally, after it was decided that two smaller dams would be built, these needed to be accommodated into the spatial plans. This was necessary because it would give the legal basis to conduct an environmental impact assessment and to issue permits for land acquisition. This is strongly connected with coordination mechanisms that require revision of the spatial plans. Formally, the revision of the spatial plans involved a number of steps: reviewing the spatial plan, preparing a new draft of the spatial plan and deliberating it technically and politically. The spatial plan has a crucial role in coordination mechanisms; where it corresponds with the development plan or where the development plan matches with the spatial plan, the construction process will be smooth. Otherwise, the spatial plan will be perceived as an obstacle. In the revision process, organisations involved face uncertainties, which can generate potential transaction costs (see Appendix 4.6).

ii. Coordination problems in administrative processes

This chapter also found three organisational uncertainties, which were caused by inappropriate and conflicting regulations used to manage resource sharing among the organisations involved in building the dams. Those three organisational uncertainties would potentially increase the time and costs involved.

The three organisational uncertainties are:

- First, defining ownership of the dams. Uncertainty arose over whether they would be owned by the provincial government of Jakarta, by the Ministry of Public Works or by the regency government of Bogor. This problem resulted

from resource sharing, given that Jakarta shared money for land acquisition, the Ministry of Public Works contributed money for construction and the regency of Bogor allowed its land to be used. Each party has a reason to claim the dams as their own. However, based on existing regulations, the owner of public goods is determined by the labour division, regulated by Law of Local Polity (Law Number 32 of 2004) and its derived regulations (i.e. Government Regulation Number 38 of 2007), which state that the dam is owned by the central government. The implication was that if the dam was owned by the central government, central government should finance it. The existing regulations do not recognize collective asset owners for a public good financed from public budgets. Debates about who the asset owner would be required great effort and time. Another concern related to the asset ownership status concerns the annual report, which is issued by the Supreme Board of Finance Audit (SBFA, *Badan Pemeriksa Keuangan*). The SBFA releases the annual report on financial accountability for each public agency involved in the administration of assets. Asset ownership administration is based on the ownership status. Inappropriate administrate asset ownership will generate inappropriate financial reports. Inappropriate financial reporting means that an organisation is less accountable or not accountable at all. This was also a crucial issue, since the ownership status contributed to other organisational uncertainties, as described below.

- Second, organisational uncertainty over who would act as the executor for land acquisition. This is an implication of difficulties deciding ownership of the dam. Based on existing regulations, the executor for land acquisition was the owner of the budget. However, it was not clear whether that meant the budget for land acquisition or the budget for construction. However, based on a collective decision, the regency government of Bogor would contribute to land acquisition, but this does not comply with the regulation because the budget for the land acquisition came from the provincial government of Jakarta. Debates over defining who would acquire land thus also required additional effort and time.
- Third, organisational uncertainty to determine the organisation who would receive the budget from Jakarta. This could have been the regency government of Bogor, where the dams are located, or the Ministry of Public Works, which

has authority for building them. One difficulty with transferring Jakarta's budget to the regency government of Bogor was that there was no existing regulation to manage this kind of inter-territory budget transfer. The regulations only manage two kinds of budget transfer: grants or financial assistance. According to the Decree of the Minister of Home Affairs No. 32/2011 and a Decree of the Minister of Home Affairs No. 14/2016, a grant can only be applied for transfer from the principal region to a new region. Based on a Decree of the Minister of Home Affairs No. 13/2006 and a Circular Letter of the Minister of Home Affairs No. 900/2007 financial assistance can be applied for only in the case of a transfer from the provincial government to its subordinates (i.e. municipalities and regencies). In the case of the Ciawi dam and the Sukamahi dam, the regency of Bogor is not a new region and is not a subordinate of Jakarta. However, transferring Jakarta's budget to the Ministry of Public Works would also require a change in regulations, since existing regulations stated that the provincial government in Jakarta can only assist the Ministry of Public Works financially as long as the dams are located in Jakarta. So, a financial transfer from Jakarta for land acquisition for the dams to the Ministry of Public Works or to the regency of Bogor faces a regulatory hurdle. Overcoming this organisational uncertainty also required extra time, cost and effort.

Administrative control instruments work for organisations who develop a single-owner public project, but here, the existing regulations do not manage resource exchanges associated with a joint project. The organisational uncertainties that exist potentially increase the cost, effort and time required, implying a delay to construction. Delays of this kind would increase the risk of floods in Jakarta. The time from the collective decision being made to build the dams to the start of development was almost three years (January 2014-November 2016).

Debates, discussion and other efforts to address these organisational uncertainties ended when the central government decided to take over all costs associated with the project and land acquisition, through Presidential Regulation No. 3/2016. The central government put an end to the complex processes and procedures associated with resource sharing between the organisations involved. This central government

intervention addressed dilemmas associated with cooperation between multiple organisations and accelerated development of the project. The Minister of Public Works could start to acquire land, thus superseding the role formerly played by the regency government of Bogor role and the provincial government of Jakarta.

The government's decision to take on the cost of the project overcame organisational uncertainties. This intervention meant that one organisation was able to take overcome organisational processes that were previously spread across a number of institutions. Administrative processes now become smoother (i.e. continuous), since there was a shift from incentive instruments to administrative control instruments; there was a shift from informal-discontinuous to informal-continuous mechanisms. This intervention also shifted the prototype of metropolitan planning in the JMR from Prototype C to Prototype B (see Chapter 2)

4.7 Summary

According to our analysis, the existing coordination capacity of the metropolitan spatial plan can be classified as a type of master-plan and the existing coordination mechanism of the dam development can be classified as a type of informal-continuous mechanism. The main instruments and organisational uncertainties associated with each are summarized in Table 4.2.

Table 4.2

The main instruments used in coordination arrangements for metropolitan planning in the Jakarta Metropolitan Region

Coordination arrangement	Instrument		Classification
	Administrative control	Incentive intensity	
Coordination capacity of the metropolitan spatial plan	Some regulations to make sure that contents formulated in the metropolitan spatial plan are accommodated in local spatial plans, such as: <ul style="list-style-type: none"> • Law No. 26 of 2007 on Spatial Planning 	- (The province of West Java accommodated the (old) Ciawi dam in its spatial plan when the Ciawi dam was still under review and debated. The West Java's decision to accommodate the (old) Ciawi dam might be	Type of master plan

Coordination arrangement	Instrument		Classification
	Administrative control	Incentive intensity	
	<ul style="list-style-type: none"> Government Regulation No. 26 of 2008 on the National Spatial Plan Presidential Regulation No. 54 of 2008 Some ministry decrees: the Decree of the Ministry of Public Works (11/2009 and 16/2009), the Decree of the Ministry of Forest (28/2009). Some local government regulations (<i>perda provinsi</i> and <i>perda kabupaten/kota</i>). <p>The particular agency safeguarding the contents transfer process:</p> <ul style="list-style-type: none"> The National Spatial Planning Coordination Agency who coordinate related ministries and central government agencies 	encouraged by a signal from Jakarta that the province of West Java can assist Jakarta and will obtain benefit from tourism development in the Ciawi dam in the future.)	
Coordination mechanism of the Ciawi dam and the Sukamahi dam	<p>Existing regulations:</p> <ul style="list-style-type: none"> Law No. 17 of 2003 on the Finance State Law No. 25 of 2004 on the National Spatial Planning Development Law No. 32 of 2004 on the Local Polity Some government regulations and ministry decrees derived from those laws. <p>Almost all promote individual performance, but fail to safeguard collective action.</p>	<p>Actors or organisations joining in collective decision to build the dam may be expected to obtain incentives:</p> <ul style="list-style-type: none"> recognized as parties who are committed to solve a crucial problem in Jakarta, calculated as a political investment, 	The informal-discontinuous mechanism (until 2016)

Coordination arrangement	Instrument		Classification
	Administrative control	Incentive intensity	
	However, through Presidential Regulation No. 3/2016, the project of the Ciawi dam and the Sukamahi dam are classified as national projects and imply that the Ministry of Public Works finances the cost of land acquisition and cost of dam construction.		Then a change to the informal-continuous mechanism (from 2016)

Table 4.2 allows us to see that the coordination arrangement for metropolitan planning in the JMR until 2016 can be classified as prototype of metropolitan planning C, given that it relies upon the use of a type of master plan and the informal-discontinuous mechanism. Prototype C, which uses administrative control instruments to encourage coordination capacity and uses incentive intensity instruments to encourage coordination mechanisms, brings about organisational uncertainties. They are:

1. With regards to coordination capacity, the type of master plan designed for the metropolitan spatial plan relies on a hierarchical plan and a regulatory system, but cannot fully manage fragmentation of policies, plans and strategies amongst authorities in the JMR and cannot adapt to change quickly enough. The organisations involved need other forums to address regional problems. Other forums, such as coordination meetings, require additional effort, implying higher transaction costs.
2. When it comes to coordination mechanisms, the lack of ownership over the joint project (which resulted from resource sharing amongst the organisations involved in the dams) led to unclear actions. This increased organisational uncertainty, given difficulties defining legal arrangements for financial transfers amongst public entities. To address these organisational

uncertainties, the organisations involved needed to hold coordination meetings, which required additional effort.

These organisational uncertainties, which cannot be addressed by existing instruments, led to delays in the dam's development. Those organisational uncertainties contributed to a reduction in effective coordination for metropolitan planning in the JMR. It was 16 years between the dam initially being proposed (in 2001) to the first construction starting (in 2017) (in 2014, after 13 years, the decision was made to build the dams). This implies ineffective coordination, which needs to be improved going forward. The intervention of central government to take on the overall cost of the dams project did promote more effective coordination; it bought about a shift from Prototype C to Prototype B. However, it may have been insufficient in encouraging effective coordination for metropolitan planning in the JMR.

Chapter 5

Chapter 5

Conclusion and Policy Recommendations

5.1 Introduction

This dissertation has attempted to aid understanding on the institutional arrangements underpinning metropolitan planning in the JMR and understand how we can enhance effective coordination amongst the organisations involved. This is important, since the current JMR has more constituents than the original JMR established in 1975. In 1975, it had six constituents, including two provinces, Jakarta and West Java. Since 2008, the JMR has twelve constituents, including three provinces, Jakarta, West Java and Banten. As the number of constituents increases, so does the likelihood of coordination problems. Moreover, since 2001, Indonesia has applied a new policy of decentralization and local autonomy, which has given more authority to provincial and local governments. The JMR has been more fragmented, meaning that each local entity has more power. This study found that the Metropolitan Power Diffusion Index (MPDI) increased from 1,76 in 1994 (before decentralisation) to 2,57 in 2012 (see Appendix 1.1). This shows that currently, the JMR is more fragmented. However, it also implies that acute problems, such as flooding, need to be solved together through effective coordination. Ineffective coordination generates delays, cancellations or postponements to metropolitan transportation infrastructures and services and to effective flood control infrastructures. These delays, cancellations and postponements add to the suffering faced by citizens, lead to a lower quality of life and have an impact on the regional economy and sustainable development. Effective coordination for metropolitan planning in the JMR is thus needed to create coherent plans, policies and strategies and to accelerate infrastructure and service development.

The core of metropolitan planning is coordination, which involves different organisations and authorities (such as local, provincial/state or central/the federal governments) and urban territories (such as municipalities, boroughs, regencies, cantons or communes) in a metropolitan region (Alexander, 2002; Roberts, et al, 1999). Since each has different strategies, policies, plans, capacities and rules that may not be coherent with one another, it can be very difficult to create a unitary plan or

joint project. Projects may therefore not be implemented or realised (for example Feiock, 20013; McCarthy, 2011). These difficulties bring about additional costs and require additional time and effort for, say, information gathering, coordination meetings, bargaining, enforcement and monitoring (Feiock, 2009). This extra cost, time and effort show that the organisations involved face barriers to engage in trouble-free resource exchange. A concern for this research was to identify how to establish coordination arrangements among the organisations involved in a metropolitan region that exert little effort, cost and time to create coherent plans, policies or strategies for the entire metropolitan region and to realize those into joint projects, common regulation or collective action. Although this research focuses on the Jakarta Metropolitan Region (JMR), coordination problems in metropolitan planning occur in other metropolitan regions around the world (see Chapter 2).

To analyse coordination problems in metropolitan regions, this research focuses on the form of governance (governance structure), an approach rooted in the Theory of Transaction Cost Economics (Williamson, 1985, 1996). Based on this perspective, organisations involved coordinate to exchange their resources within a particular arrangement that they have agreed upon and accepted, whether through hierarchical, market-based or hybrid forms of governance. The arrangement uses specific instruments; hierarchy uses administrative control instruments, market-based approaches apply incentive intensity instruments and hybrid forms used mixed instruments. When they face barriers to coordination that generate extra time, costs and efforts, based on the theory of TCE, they need to change the form of governance used (Williamson, 1985, 1996). Changing the form of governance also means changing the particular instruments used. This research argues that coordination problems have resulted in an inappropriate form of governance used for coordination arrangements. Appropriate forms of governance and specific instruments will reduce the additional time, cost and effort required.

5.2 Research background

This research was designed to answer a central research question concerning metropolitan planning in the Jakarta Metropolitan Region (JMR):

“How can effective coordination for metropolitan planning in the JMR be explained and its effectiveness be improved?”

The main research question is operationalized through four sub-research questions:

1. When effective coordination for metropolitan planning changes dynamically at different times in the same metropolitan region and there is “no one size fits all” between metropolitan regions, what forms of governance are used and what shifts in their application are evident in metropolitan planning?
2. What is organisation’s preferred approach to the governing the JMR in the context of coordinated metropolitan planning?
3. How can the coordination capacity of a metropolitan plan in the JMR be explained with reference to the form of governance adopted?
4. How can coordination mechanisms used for developing JMR regional infrastructure projects, be explained with reference to forms of governance?

These four sub-research questions are designed to tease out an answer to the main research question and to formulate recommendations that can enhance effective coordination for metropolitan planning in the JMR and solve regional problems, such as traffic jams and acute floods. The emphasis is on effective coordination during both the plan making and implementation phases. Effective coordination for metropolitan planning in the JMR is crucial; Jakarta needed 24 years to start work on a rapid transport system, for example. The JMR took 13 years before it decided to build the Ciawi and Sukamahi dams. Acceleration can be achieved when the coordination arrangements applied adopt the appropriate form of governance to manage resource exchange.

5.3 Research Findings

A number of findings have been identified.

5.3.1 The framework of metropolitan planning: the scientific contribution

For the first sub-research question, this research showed that institutional arrangements for metropolitan planning are different from one another in the

metropolitan region and also different over time, even in the same metropolitan region (presented at Chapter 2). So, metropolitan planning isn't just "one size fits all", but it also changes dynamically. These two characteristics of metropolitan planning are a crucial concern that influences this research and the quest for effective coordination.

Effective coordination for metropolitan planning was analysed along three lines. The first focused on effective coordination to govern a metropolitan region. Here, academic debates include the localism, regionalism and new regionalism approaches; which approach is preferred by organisations involved? The second focused on effective coordination to create coherent metropolitan policies, plans or strategies. Here, academic debates focus upon the type of plan that can be applied for the entire metropolitan region, whether in terms of a master plan (or blueprint, or coordinative planning), a (traditional) strategic plan or a new strategic plan (master-strategic plan, or strategic-master plan, programme-based plan, or strategic project). The third focused on effective coordination to implement metropolitan plans, policies or strategies. Rarely does academic research discuss the implementation of metropolitan plans, policies or strategies in-depth, but much of the existing literature recognizes that implementation of these are the most difficult part in metropolitan planning (e.g McCarthy, 2011).

This research showed that those differences and academic debates actually demonstrate different forms of governance, rooted in the theory of Transaction Cost Economics (Williamson, 1985, 1991, 1996, 1998), which focused upon how organisations involved coordinate to manage resource exchanges. With those three forms of governance in mind, this research developed three mechanisms for implementation of a metropolitan policy, plan or strategy. Furthermore, this interpretation led this research to develop a comprehensive framework of metropolitan planning, containing three forms of governance: hierarchical, hybrid and market-based forms. As presented in Chapter 2, this research developed a comprehensive framework of metropolitan planning, which laid out nine prototypes of metropolitan planning. Each of those prototypes corresponds to a form of governance used by the organisations involved to coordinate and develop coherent metropolitan policies, plans or strategies and to coordinate their implementation.

This comprehensive framework of metropolitan planning is the scientific contribution of this research. Using the comprehensive framework of metropolitan planning, we will be able to demonstrate differing forms of effective coordination for metropolitan planning in different places and at different times. As we saw in Chapter 2, this research identified other instances where policy was not “one size fits all” and where it was subject to dynamic change, namely Greater London, Amsterdam Metropolitan Region and Portland Metropolitan Region.

5.3.2 The preferred metropolitan governance approach used in the JMR

In answer to the second sub-research question, this research showed that metropolitan planning in the JMR uses a **decentralized system and inter-local government cooperation supported by central government and private entities** (see Chapter 3). There is a preference of the organisations involved to govern the JMR through multi-organisation cooperation because such cooperation does not lead to a reduction in authority. The preference for inter-local government cooperation also shows that they accept this metropolitan governance approach given that it creates a particular coordination arrangement of metropolitan planning in the JMR. This approach is more widely preferred than the “Megapolitan” concept, which consolidates the JMR horizontally. Even though this was expected to be more effective when implementing metropolitan plans, policies or strategies in the JMR, the organisations involved avoided it. Moreover, the idea that was supposed to be accommodated in a new law for the Special Region of Jakarta was rejected by the central government.

Chapter 3 demonstrates a crucial factor in the provision of a Bus Rapid Transit (BRT) from Jakarta to its surrounding districts, designed to serve commuters and to address traffic jams. Provincial and local governments surrounding Jakarta preferred to cooperate rather than form a metropolitan regional government in order to solve metropolitan regional problems. Inter-local government cooperation is chosen to provide and produce metropolitan regional infrastructures and services in the JMR. Here, the role of the central government is also crucial. The central government for example, supported the construction of a special road for the BRT that connected Jakarta to surrounding districts.

5.3.3 Coordination capacity of the metropolitan spatial plan of the JMR

When it comes to the third sub-question, this research shows that existing metropolitan spatial planning uses a hierarchical form of governance, or **type of master plan**, to manage spatial plans produced by the provincial and district governments that form the JMR (see Chapter 4). Based on existing regulations, the spatial plans of the provinces of Jakarta, West Java and Banten and the spatial plans of all districts should follow and accommodate the contents of the metropolitan spatial plan. The challenge for the metropolitan spatial plan is thus to manage the fragmentation of policies, plans and strategies. However, even though administrative control instruments are applied, there were some deviations between spatial plans when it came to how to mitigate floods in Jakarta by developing dams in territory upstream of Jakarta. That deviation highlights the difficulties in creating a coherent plan for the JMR. Those spatial plans also couldn't become a main reference for the organisations involved to guide a collective decision whether to build or not to build the dams. Plus, existing regulations that were applied could not manage the development of the dams; existing regulations didn't give flexibility for spatial plans to adapt to dynamic changes in ideas and demands.

The organisations involved, particularly those in Jakarta, established other fora outside of the metropolitan spatial plan to discuss the dams. Jakarta needed the support of other territories upstream. Other forums included the submission of an annual proposal from the province of Jakarta to the Ministry of Public Works, meeting the Vice President of the Republic of Indonesia, creating a consensus between the Governor of Jakarta and the Governor of West Java and using forums managed by BKSP *Jabodetabekpunjur* (the regional agency of the JMR) to mitigate floods in Jakarta and to encourage inter-local government cooperation. A collective decision to build the dams was finally taken in a meeting facilitated by the BKSP *Jabodetabekpunjur* involving the organisations concerned. The type of master plan used though couldn't fully control and manage the demands by members of the JMR to create coherent policies, plans or strategy for the entire JMR.

5.3.4 Coordination mechanisms to implement a joint-project for the JMR

When it came to the fourth sub-research question, this research showed that existing coordination mechanisms to implement the dam projects relied upon a hybrid form of governance. More specifically, it relied upon a **type of informal-continuous mechanism** (discussed in Chapter 4). This hybrid form of governance manifests itself in the main instruments used to manage resource exchanges among the organisations involved in the construction of the dams. The main instruments used are mixed instruments, incentive intensity instruments and administrative control instruments. This type of informal-continuous mechanism was first implemented in September 2016, almost three years after the collective decision was made to build the dams and when central government (through the the Ministry of Public Works) took over whole cost of the dams (including land acquisition and construction costs). Previously, it was expected that the dams would be financed jointly by the central government and provincial government of Jakarta. This cooperation didn't pan out smoothly, because existing regulations did not support this kind of resource sharing.

Central government's decision to take over costs of the dam in September 2016 reduced the organisational uncertainties that had previously existed. Central government intervention also used administrative control instruments, namely budget interventions. Previously, administrative control instruments used between January 2014 to September 2016 were regulations be applied to each of the organisations involved. Each organisation has specific regulations that govern how they exchange resources with one another. However, existing regulations were not appropriate for joint projects that required resource sharing, such as the two-dam project. Inappropriate regulations thus brought about organisational uncertainties, such as a lack of clarity over the administrative status of the budget transfer from Jakarta to Bogor or to the Ministry of Public Works, a lack of clarity over who is responsible for land acquisition or a lack of clarity about who would be the collective owner of the joint project. Those organisational uncertainties required extra time, cost and effort for the organisations involved. To accelerate the development of the dams, in September 2016, the central government took over all the costs, thus bringing an end to the organisational uncertainties.

5.4 Conclusion

The main research question asked “to what extent can effective coordination for metropolitan planning in the JMR be explained and improved?” This research has shown that metropolitan planning in the JMR uses **Prototype B** (see Figure 5.1). This prototype uses a **master plan** to manage coordination capacity and uses the **informal-continuous mechanism** to manage coordination mechanisms. This prototype has been used since September 2016, when the central government took over land acquisition costs from the provincial government of Jakarta. Previously, Jakarta promised to pay land acquisition costs to the regency of Bogor, but this plan was cancelled, since existing regulation did not allow for this kind of arrangement. Prior to this intervention, the coordination arrangement for metropolitan planning in the JMR corresponded to **Prototype C** (see Figure 5.1). Prototype C means that the coordination arrangement of metropolitan planning uses a master plan to manage coordination capacity and an informal-discontinuous mechanism for the coordination mechanism. Since the organisations involved faced some coordination problems, which required additional cost, effort and time, Prototype C changed to **Prototype B**.

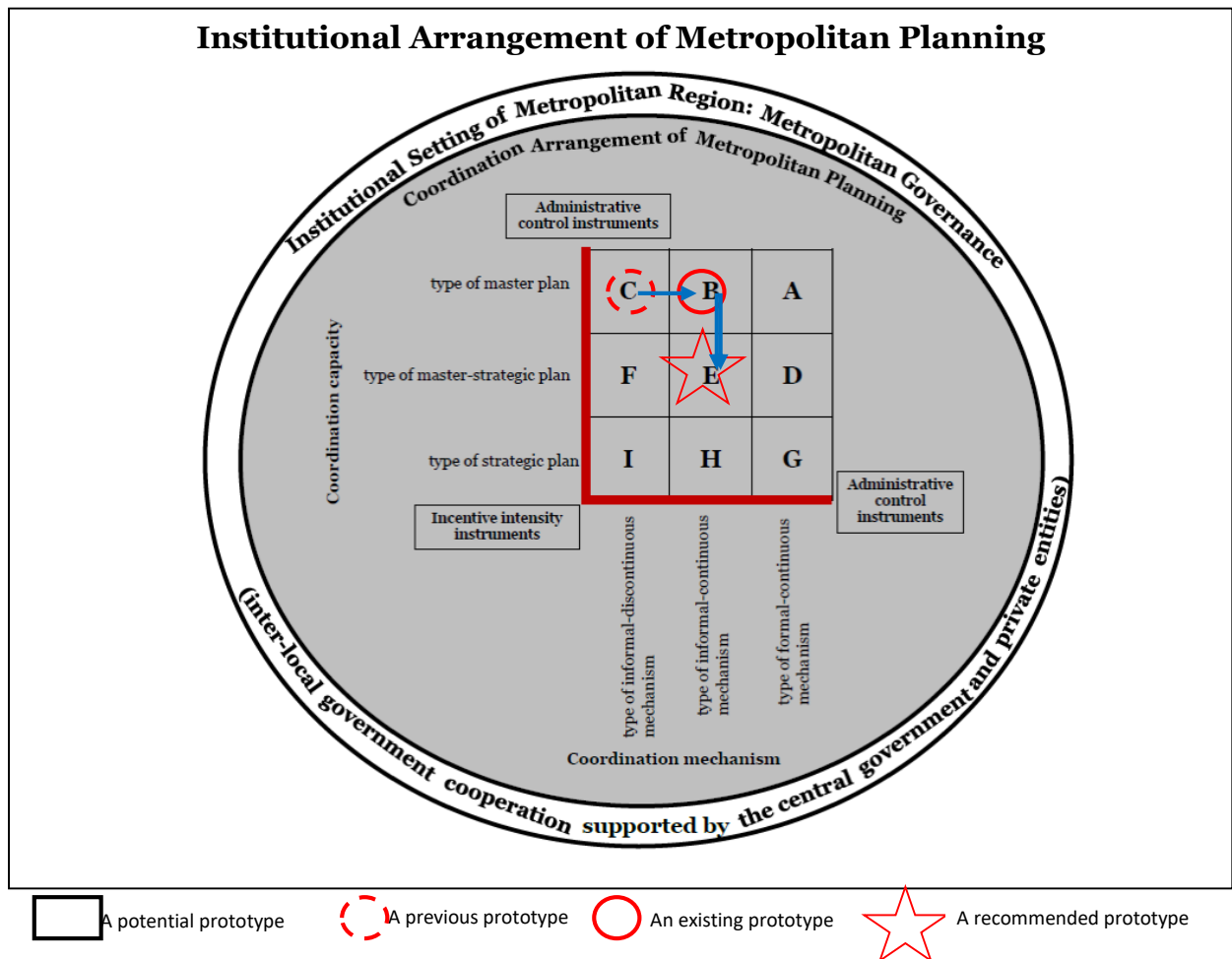


Figure 5.1

Institutional arrangement of metropolitan planning in the JMR and shifts of prototype

Prototype C, which relied on incentives for coordination mechanism, was not sufficient for the organisations involved to implement the collective decision to build the dams. They spent almost three years to start land acquisition and dam construction because this prototype C contained inherent uncertainties. Those uncertainties, such as an unclear ownership status of collective asset of the dams, made it difficult for them to take actions. However, when they shifted to Prototype B, which used mixed incentive instruments and administrative control, provided more certainties. Then, they could begin development of the dams.

Even though Prototype B succeeded in reducing organisational uncertainties, time, effort and cost, it also had some weaknesses. As identified in previous chapters, the type of master plan used to stimulate coordination capacity does not adequately

address fragmentation and adaptation problems. Another crucial issue is the preferred institutional setting to govern the JMR, that is, inter-local government cooperation supported by the central government and private entities. As is the case in other metropolitan regions in the world, this metropolitan governance approach is weak, given that every organisation can easily enter and exit any collective agreements. No one organisation can force another to follow through on the agreements made. This can generate difficulties, particularly when seeking to address metropolitan regional problems requiring collective action. However, as mentioned by Williamson (1996), the acceptance of organisations involved is fundamental to creating coordination on a more operational level. In the case of the JMR, multi-organisation cooperation is a key. Based on this configuration, metropolitan planning in the JMR still needs improvement to enhance effective coordination within the context of inter-local government cooperation, supported by central government and private entities.

Drastic improvement for the institutional setting of the JMR is also possible. Chapter 2 discussed the lessons learned from the dynamic shifts to metropolitan planning in metropolitan regions around the world. It is possible in metropolitan planning to shift from a cooperation approach to an integration approach or *vice versa*. In the case of the JMR, drastic improvement is needed to integrate the JMR horizontally and to establish a unitary metropolitan regional government. It requires more effort, because it demands the amendment of relevant laws and even the Constitution. As discussed in Chapter 3, the idea to integrate the JMR generated discussion, debate and political tension. It is possible that similar ideas will be realised in the future, as long as the organisations involved accept them.

This dissertation assesses transaction costs through an indication of time and efforts needed by the organisations involved to coordinate: to make collective decisions or to create a coherent metropolitan plan and to implement those. Circumstances like extensive time investments and elaborate efforts by the organisations involved indicate that high transaction costs exist. To reduce those high transaction costs, they would need to change to another form of governance which utilizes other available instruments, or creating new instruments. Here, the option to change is to use a different form of governance with particular instruments to solve uncertainties. However, the option chosen by the organisations involved should be supported by the

institutional setting of metropolitan region. The existing institutional setting of a metropolitan region influences any decision about acceptable arrangements for coordination. The chosen form of governance for coordination should be selected to fit this institutional setting of metropolitan region. A particular form of governance may have lower transaction costs, but without acceptability, it is difficult or cannot be implemented.

5.5 Improvements proposed

The conclusion to the research mentioned that metropolitan planning in the JMR currently uses Prototype B as its coordination arrangement. This is supported by the institutional setting of the JMR, namely inter-local government cooperation supported by the central government and private entities (see Chapters 3 and 4). Even though Prototype B has succeeded in ending the organisational uncertainties that previously occurred in coordination mechanisms, it has brought about other organisational uncertainties with respect to coordination capacity (see Chapter 4). Organisational uncertainties associated with the master plan have resulted from fragmentation of the organisations involved in the JMR. Prototype B requires that central government ministries or agencies should have adequate financial capacity to finance projects agreed upon by the JMR. When resources, including financial resources, are limited, the central government will have difficulty financing projects. In the case of the two dams, a lack of financial support from the central government would be addressed by the provincial government in Jakarta, but existing regulations prevented this taking place. To avoid this problem in the future and to enhance effective coordination for metropolitan planning in the JMR, this research proposes shifting the existing prototype, from Prototype B to Prototype E (see Figure 5.1). Prototype E is chosen through analysis of the remediableness criterion. This analysis is presented in Appendixes 5.1 and 5.2. Improvements concern not just the coordination arrangement, but also the institutional setting in the metropolitan region (i.e. metropolitan governance). Those improvements are presented in the sub-sections below.

5.5.1 Improvements to the institutional setting of the JMR: the preference for the metropolitan governance approach

In order to enhance effective coordination for metropolitan planning in the JMR, this section proposes possible improvements. Improvements are proposed to enhance effective coordination for metropolitan planning in the JMR by creating coherence between the institutional setting in the metropolitan region and coordination arrangements for metropolitan planning. In the case of the JMR, Chapter 3 demonstrates that the organisations involved prefer to govern the JMR through inter-local government cooperation supported by the central government and private entities. This metropolitan governance of the JMR is facilitated by BKSP *Jabodetabekjur*, a regional agency of the JMR. BKSP *Jabodetabekjur* is accepted politically by the organisations involved (Firman, 2008). The preference of the organisations involved in the metropolitan governance approach and existence of the BKSP *Jabodetabekjur* are crucial to establishing the institutional setting in the JMR. This is discussed by Williamson (1996), who argued that even though a type of coordination may not be efficient, it can be persistent for a long time because the organisations involved accept and support it. In the case of the JMR, even though the cooperation between the BKSP *Jabodetabekjur* and other organisations is deemed ineffective, the organisations involved accept and support the existence of this regional agency and this metropolitan governance approach (see Chapter 3). The preference of the organisations involved in governing the JMR, through inter-local government cooperation supported by the central government and private entities, is fundamental to creating an effective coordination arrangement for metropolitan planning in the JMR. Following this, improvements to enhance effective coordination are also based on the preference for cooperation.

Here, provincial and local government constituents of the JMR are encouraged to engage in more closed cooperation. The current practice of inter-local government cooperation is weak because there is no sanction or incentive for them to follow any joint-agreement; no one organisation can force another to follow. So, one improvement that is required is to search for and to apply other instruments that can encourage closer cooperation. With that in mind, this research proposes the use of incentive intensity instruments. The incentive intensity instruments that are proposed are:

1. Annual grants from the province of Jakarta to surrounding districts are framed as an incentive to implement Jakarta's strategies and to obtain support from its neighbouring cities to solve Jakarta's problems. However, Jakarta's strategies didn't have a systematic framework to finance projects and locations/sites. The central government can remedy this situation by encouraging Jakarta to use the metropolitan spatial plan of *Jabodetabekpunjur* as their platform to plan and to disperse grants to the surrounding districts.
2. The central government can enhance inter-local government cooperation in the JMR by offering incentives for districts that support development within the context of the metropolitan and regional perspective. For example, central government can provide incentives for the Bogor regency if they can safeguard and preserve their conservation areas and protected forests. The incentive is required to guide development in the regency of Bogor and to substitute any potential loss of revenues it faces. When the regency of Bogor, which is located upstream of Jakarta, opts to respond to the incentives rather than conserve and protect areas, Jakarta will be safer from the risk of floods.

5.5.2 Improvements to coordination arrangements for metropolitan planning in the JMR

Improving coordination arrangements for metropolitan planning means to identify a better prototype according to the framework of metropolitan planning developed in Chapter 2. To identify a better prototype, three stages are undertaken (i) to identify and to analyse possible instruments used in each type of metropolitan spatial plan and when plans are implemented, whether relying upon administrative control, incentive intensity, or both (see Appendixes 5.1 and 5.2), (ii) to identify and to analyse those types using three remediableness criterion (see Appendixes 5.1 and 5.2) and (iii) to identify which prototype of metropolitan planning is better than that which exists currently. Identification and analysis is conducted for all prototypes of metropolitan planning provided by the framework of metropolitan planning developed in Chapter 2, which each prototype has similar chance to be proposed as a better prototype.

In the third stage, all prototypes are able to be described and to be implemented, but they have different net gain. Bigger net gain indicates a better prototype. This section

selects a type of coordination capacity underpinning the metropolitan spatial plan and a type of coordination mechanism directed at plan implementation. Each type has the potential to reduce existing uncertainties. By rethinking metropolitan planning for the JMR, based on the remediableness criterion (see Appendixes 5.1 and 5.2), this section proposes enhancing effective coordination by establishing a type of master-strategic plan to bolster coordination capacity and a type of informal-continuous mechanism to bolster coordination mechanisms. This proposed alternative relates to **prototype E** (see Figure 5.1).

5.6 Policy implications and recommendations

This section discusses the policy implications that result from Prototype B, which stresses a preference for a metropolitan governance approach to inter-local government cooperation supported by central government and private entities. Improvements and policy recommendations required for improvements in implementation are also proposed. This analysis is conducted to enhance effective coordination for metropolitan planning in the JMR. The analysis is conducted using the form of governance (governance structure) perspective, rooted in the theory of Transaction Cost Economics (Williamson, 1985, 1996).

5.6.1 Policy implications

In this sub-section, this research will discuss the policy implications of: (1) the current institutional arrangement for metropolitan planning in the JMR and (2) the institutional arrangement underpinning metropolitan planning proposed for the JMR. These will be discussed with reference to the institutional setting in the metropolitan region, coordination capacity and coordination mechanisms.

a. Institutional setting of metropolitan region

The current institutional arrangement for metropolitan planning in the JMR has a preference for inter-local government cooperation supported by central government and local entities. This preference implies that under existing laws and the constitution and organisations involved should prioritize cooperation when creating and implementing coherent plans, policies or strategies and during their implementation. Central government supports inter-local government cooperation by providing

infrastructure and services. Private entities support as contractors. Based on this preference, it is best to avoid a policy that integrates local government horizontally.

As discussed in Chapters 3 and 4, the BKSP *Jabodetabekjur* has a crucial role to play in maintaining and facilitating communication and coordination amongst the organisations involved by allowing for a collective commitment to be made. Even though this agency is perceived to be ineffective in implementing plans, policies and strategies because of its limited power, whether in the case of metropolitan transportation (Chapter 3) and the case of the two dams project (Chapter 4), it played an effective role in facilitating governors, regents and mayors when consolidating and taking collective decisions. So, to be consistent, a policy to increase the power for the BKSP *Jabodetabekjur* may also be avoided. This will better enhance its capacity to facilitate and to consolidate collective decisions and commitments by governors, regents and mayors.

As suggested in Section 5.5, improvements to institutional settings involve using the metropolitan spatial plan *of the Jabodetabekpunjur* as a platform for Jakarta to plan and to disburse grants to its surrounding districts and to provide an incentive for constituents of the JMR to conform with plans, policies or strategies of the JMR. The implication of these improvements is that the central government can't just oversee behaviour, but should actively manage existing arrangements and begin to take control of grants from the province of Jakarta in order to create closer and more coherent inter-local government cooperation in the JMR. Another policy implication is that central government should try to formulate a policy to provide grants to create plans, policies or strategies that are uniform across constituent members of the JMR. To allow plans, policies and strategies to conform, central government can also use the metropolitan spatial plan *of the Jabodetabekpunjur*.

b. Coordination capacity underpinning the metropolitan spatial plan

As mentioned previously, the existing coordination capacity of metropolitan planning also has weaknesses, namely its capacity to address fragmentation and adaptation. The metropolitan spatial plan should thus be complemented by other regulations that address fragmentation and adaptation.

In the previous section, improvements to solve those were proposed. Regulations related to developing and arranging the metropolitan spatial plan and provincial and local spatial plans should be revised. The regulations rely on administrative control and are not adequate in managing fragmentation and demands for adaptation. Another implication is that the metropolitan spatial plan should be developed so that it involves private entities and others. The revision will be to Law No. 26 of 2007 on Spatial Planning and the Presidential Decree No. 54 of 2008 on the Spatial Plan of the *Jabodetabekpunjur*.

c. Coordination mechanisms to implement joint-projects

The decision to take over all the costs associated with the dams meant the prototype for metropolitan planning in the JMR shifted from Prototype C to Prototype B (see Figure 5.1). This had two policy implications. The first concerns the way that metropolitan regional problems in the JMR were dealt with; provincial and local government can only help to finance the central government projects as long the projects are located in the provincial or local government territory. The second is that the central government should have adequate financial capacity to support inter-local government cooperation in the JMR by developing regional infrastructures and services. These two implications do not favour the JMR. The JMR will have difficulty in developing its metropolitan regional infrastructures and services and addressing regional problems when those projects are financed only by central government. However, provincial government does have budget capacity, but isn't allowed to offer support.

5.6.2 Policy recommendations

A number of policy recommendations are developed in order to respond to the analysis above (see also Appendixes 5.1 and 5.2). We saw that prototype E has the potential to enhance effective coordination for metropolitan planning in the JMR (see Figure 5.1). To realize Prototype E (see Figure 5.1), this research proposes three policy recommendations:

a. Institutional settings of the JMR: to keep the existing setting or to shift it to become more integrated

As discussed in Chapter 3, this research recommended keeping the existing institutional setting governing the JMR, i.e. the decentralized system that encourages inter-local government cooperation and which is supported by central government and private entities. There are a number of reasons for this (1) the organisations involved prefer to govern the JMR, because this institutional setting does not reduce the autonomy of provincial and local governments, (2) central government is still able to frame the JMR's policies, plans or strategies and to support in their implementation, (3) the existing regional agency, the BKSP *Jabodetabekjur*, still functions to consolidate the political support of provincial and local governments, and (4) to manage regional political cohesiveness. To support inter-local government cooperation, the policy recommendation is that capacity building should be encouraged for the BKSP *Jabodetabekpunjur*. Capacity building includes communication training, contract writing training and collaborative governance workshops and training.

To create closer cooperation among provincial and local governments involved, the central government can actively formulate and use various incentives. Central government can issue decrees from the Minister of Home Affairs to encourage the provincial government in Jakarta to incorporate grants to surrounding districts into the metropolitan spatial plan of the *Jabodetabekpunjur*. Moreover, to create conformity among the organisations involved, the central government can enhance conformity by providing incentives. The central government, through revision of the Law of Financial Balance between the Central Government and Local Politics, can establish an incentive scheme.

However, it is important to note that it is possible that the institutional setting in the metropolitan region will shift so that it becomes more integrated. As has been discussed in Chapter 2, other metropolitan regions around the world change from a fragmented institutional setting to a more integrated, metropolitan one, or *vice versa* (as was the case in Greater London, Amsterdam or Portland). With that in mind, the JMR may also have a chance to change the institutional setting in the metropolitan region. The integration of the JMR will require a shift in political support from the

organisations involved and will require the amendment of existing laws, namely the Law of Local Polity, the Law of Jakarta as the Capital City and laws on the establishment of autonomous relevant provinces and districts in the JMR. These new laws will bring both benefits and drawbacks and increase transaction costs, such as those that result from the intensive coordination meetings and bargaining that would take place. Success or failure in this regard will depend on the acceptance or reluctance of the organisations involved.

b. Coordination capacity: to shift from a master plan to a master-strategic plan

This new type of the metropolitan spatial plan is designed to cope with fragmentation and dynamic changes in metropolitan regions, including adaptation to new challenges and new opportunities, which requires flexibility as well as certainty. This research recommends developing a policy, one that would create a new type of metropolitan spatial plan. This new type should be designed to encourage flexibility and certainty and should be a master-strategic plan. Master-strategic plans are associated with hybrid forms of governance and rely on mixed instruments, namely administrative control and incentive intensity.

i. To address fragmentation

The type of master-strategic plan is formulated into smaller areas and contain contents that are rigid (e.g. a master plan) and some that are more flexible (e.g. a strategic plan). The rigid contents could concern, for example, conservation and protected forests, heritage areas, military areas, irrigated-technical farming areas, airports, seaports, infrastructure networks, flood control structural measurements, energy plants, regional water drinking processing plants, regional solid waste plants and other public projects. These contents should be formulated as part of the master plan. The rigid contents formulated in the master plan should be designed to cope with fragmentation in the metropolitan region generated by different local governments. Central government should clearly define those areas to avoid misleading those involved. Central government should also provide particular rules of the game, including rule enforcement, to safeguard those areas. This rule of the game mainly relies on administrative control instruments

consisting of commands, sanctions and compensation. These rigid contents should be formulated in the master plan. Given that they form part of the master plan, these will have to be accommodated in local spatial plans. These rigid contents have a planning period of twenty years and can be reviewed every five years. The review is conducted by central government.

On the other hand, flexible contents are formulated in areas that are likely to change dynamically through land development. These areas need more flexibility and should include incentives to successfully develop particular functions, such as Transit-Oriented Development (see for example Tan, Janssen-Jansen and Bertolini, 2013). Due to the fact that they are dynamic, this research suggests that these areas are included in some strategic spatial plans as part of the metropolitan spatial plan for the JMR. These strategic spatial plans are designed to cover one or more territory and are designed to correspond to the administration period of the elected head of local or provincial government. The local strategic spatial plan is not formulated to have 20 years following current development plan period. The period of the local strategic spatial plan is the same as for the local development plan: five years. This new arrangement also matches perfectly with the administration period of a governor, regent or mayor, which is also five years. Other incentives can be created so that actors feel involved in major events and so that financial incentives or disincentive for land development control are put in place. These strategic areas are designed to be dynamic areas that match as locus areas of the realization of vision, mission and priority programmes offered during the campaigns of governors, mayors and regents. Financial incentive can be created through revision to the Law of Financial Balance between the Central Governments and Local Politics, which provides incentives for provincial and local governments to conform to national plans, policies or strategies for metropolitan regions, such as to save conservation areas or to provide sufficient park and ride areas.

ii. To address adaptation

As mentioned above, when the metropolitan spatial plan contains a number of smaller plans, whether master plans or strategic plans, the revision process become easier. The important difference between this arrangement and the current

metropolitan planning system is that these smaller parts are not determined by administrative territory, but based on content that is administrated territorially. The implication is that each district may also have a number of smaller spatial plans. The district government has autonomous authority to coordinate, formulate, deliberate and enact the plan, particularly in strategic areas, i.e. areas that change dynamically. However, when central government focuses upon strategic areas, which may comprise several autonomous provinces, it needs to coordinate plan formulation mechanisms. Similarly, the provincial government who has provincial concerns for the strategic areas, which may consist of several autonomous districts within provincial territory, the provincial government leads to coordinate plan formulation. The revision does not need to change the whole metropolitan spatial plan, but instead is only conducted for specific plans that need to be revised. Moreover, the revision can be conducted anytime there is a new national priority that has not previously been planned for in spatial plans.

In summary, the policy recommendations are presented in Table 5.1.

Table 5.1

The policy recommendations to enhance effective coordination for the metropolitan spatial plan of the JMR

Concern	Type of master-strategic plan	
	Element of master plan	Element of strategic plan
Fragmentation	<ul style="list-style-type: none"> • Addressing fragmentation through the creation of a single metropolitan spatial plan for the JMR (provincial and local government do not need to develop their own spatial plan), but one which consists of smaller master plans and smaller strategic plans. • To provide certainty with rigid contents that cannot be changed through normal procedures, such as existing conservation areas and protected forests, military facilities, airports, seaports and technical irrigation. 	<ul style="list-style-type: none"> • Process to develop the metropolitan spatial plan can maximize incentive instruments, such as encouraging involvement in major events and providing financial incentives to keep Jakarta as the capital city. • Incentive instruments should be used to compensate for development limitations and constraints in certain areas.
Adaptation	<p>□ The smaller master plans and smaller strategic plans are not determined based on territory but based on content.</p>	<ul style="list-style-type: none"> • Using incentives to control land development, • Existing spatial plans can be revised to adjust to new strategic national projects (which are enacted through the presidential decree)

c. Coordination mechanisms: establishing new regulation for financial assistance

As mentioned previously, intervention from the central government to take over the cost of land acquisition from the budget of the provincial government of Jakarta served to end debate and discussion about how to administer the budget transfer from the provincial government of Jakarta, whether to the Ministry of Public Works or to the regency government of Bogor. This intervention means that the coordination mechanism became much smoother. This continuous process accelerated the dam

construction process. However, this intervention implies that central government should have financial capacity. When the central government does not have financial capacity, it can develop schemes involving other actors through private-public partnerships and co-production.

For public goods such as dams, which do not always make a profit, private companies may not be interested in investing. The central government should therefore search for other funding sources. When the provincial government of Jakarta was willing to provide funds for land acquisition for the dams, it was a breakthrough. Regulatory barriers meant that resource sharing couldn't be realized and needed to be overcome. The solution was to create a much smoother processes through to use another administrative control instrument that involved provincial and local governments. This research proposes that regulation governing budgetary assistance from provincial and local governments to central government ministries or agencies should be revised. Revision is needed because budgetary assistance is not only offered within a provincial or local government exclusively and in other territories. In the case of the dams, located in the regency of Bogor, based on the existing regulation, the provincial government of Jakarta was not allowed to share its budget with the Ministry of Public Works to finance land acquisition. Revision can enhance the financial capacity of the ministries or agencies to support metropolitan planning in the JMR.

5.7 Summary

A summary of the research findings, alternative improvements for the JMR, policy implications and policy recommendations is presented in Table 5.2 below.

Table 5.2

Summary of Institutional Arrangements for Metropolitan Planning in the JMR

Scope of Metropolitan Planning	Research Findings on Metropolitan Planning in the JMR	Alternative Improvements for the JMR	Policy Implication	Policy Recommendation
Institutional setting of metropolitan region	Decentralized system and inter-local government cooperation supported by central government and private entities	1. Enhance the capacity of the BKSP <i>Jabodetabekjur</i> to facilitate and to consolidate a collective decision by governors, regents and mayors	<ul style="list-style-type: none"> Not to integrate the JMR horizontally or politically, Not to give additional power to the BKSP <i>Jabodetabekjur</i> 	Capacity building (communication training, contract writing training and collaborative governance workshops and training).
		2. To frame grant of Jakarta to its surrounding districts into JMR perspective	1. The central government actively seeks to encourage the grant is framed through to use the metropolitan spatial plan.	To issue The Decree of the Minister of Home Affairs to manage Jakarta's grant to its surrounding districts
		3. Providing incentives for local government to ensure that plans, policies or strategies conform to the the national and metropolitan perspective	2. To formulate policy connecting grant and conformity	To revise the Law of Financial Balance between the Central Government and Local Politics to provide incentives to provincial and local governments to conform to national and metropolitan plans, policies and strategies.
Coordination capacity	Type of master plan	Type of master-strategic plan	For existing coordination capacity (the type of master plan) need to be complemented with other regulations to address fragmentation and adaptation.	To create policies, plans or strategies for the entire JMR that are rigid in some areas, but which are more flexible in others.
				Development of spatial structure formulated through minuted meetings and which have a legal status (presidential decree).

Scope of Metropolitan Planning	Research Findings on Metropolitan Planning in the JMR	Alternative Improvements for the JMR	Policy Implication	Policy Recommendation
				To create an incentive system, the central government rearranges the period of the provincial/local spatial plan so that it matches with the period of governor, regent or mayoral office.
Coordination mechanism	Type of informal-continuous mechanism	Type of informal-continuous mechanism	The current mechanism implies that the ministries and central government agencies should have adequate financial capacity to finance projects for the JMR.	<ol style="list-style-type: none"> 1. To enhance financial capacity of the central government ministries or agencies 2. To revise regulation on budget assistance to allow for provincial and local government to support the central government financially to construct projects, wherever the projects are sited.

5.8 Research agenda(s)

The new framework of metropolitan planning developed in this research stimulates further research. This research agenda is developed to meet the high demand for multi-organisation coordination. Multi-organisation coordination can be realized not only by collective decisions and the political will of decision makers or political actors but needs the support of institutions in which it is to be implemented. Having applied the framework of metropolitan planning, we can talk of four research agendas that open up:

- a. **Identifying the prototype of metropolitan planning in other metropolitan regions**, such as those in Indonesia, ASEAN countries, Asia or other regions around the world. This is relevant to ongoing discussions on metropolitan governance and planning, such as those from Salet, Thornley and Kreukels (2003), Hults and van Monfort (2007) and Xu and Yeh (2011). It also will enrich the metropolitan planning literature, particularly that which discusses institutional developments for metropolitan planning and effective coordination from the perspective of the form of governance. These various institutional developments can be represented using various prototypes of metropolitan planning developed in this research. This research agenda is important because we may recognize particular patterns that will stimulate the creation of new knowledge, for example, we may notice a relationship between a prototype of metropolitan planning and degree of institutional development in a country.
- b. **Identifying more and varied operational instruments for prototypes of metropolitan planning**. These operational instruments are crucial. A focus on the form of governance and transaction costs can be a useful tool to enhance effective coordination for metropolitan planning, such as creating new incentives or creating new regulations in order to reduce sources of transaction costs. This type of research can also connect with ongoing discussions, such as that of Leshinsky and Legacy (2016), Macintosh (2013) and Darmoyono (2019). This future research will enrich various operational instruments that are suitable for hierarchy, market or hybrid form of governance. From the perspective of the form of governance and transaction costs, operational instruments found will be classified into certain prototypes for metropolitan planning. New operational instruments uncovered by this future research will complement those in Table 2.8 in Chapter 2.
- c. **Deploying the framework and its prototypes in the context of other issues**, particularly those which are cross-cutting and which cross-political boundaries, such as those that fit within the regional development agenda, or those that are associated with the development of tourist areas, public-private partnerships, hazard and disaster mitigation, regional environmental development, river basin development, regional resilience and soon. These issues involve multiple organisations coordinating and working under a

particular form of governance. Thus, it can be predicted that the framework of metropolitan planning developed in this research can be used elsewhere.

- d. Developing a new framework of metropolitan planning covering more detailed institutional settings in the metropolitan region.** This current research was limited in so much as it only discussed various coordination arrangements of metropolitan planning using nine prototypes. Further research can seek more sensitive institutional design (see for example Darmoyono, 2019) and construct a more detailed systematic arrangement of multi-organisation coordination in institutional settings in the metropolitan region, which would be connected closely to the framework of metropolitan planning developed in this work. The further development of this new framework may perhaps lead to 81 dynamic prototypes of metropolitan planning.

Overall, this dissertation has discussed a crucial issue, multi-organisation coordination in metropolitan regions, and sought to identify a variety of institutional arrangements for metropolitan planning and ongoing policy research and practices on effective coordination. Through a focus on the form of governance, rooted in the theory of Transaction Cost Economics (Williamson, 1985, 1996), we were able to analyse the instruments and form of governance most appropriate to application in the multiple organisations working together in Indonesian metropolitan regions. Using this perspective, central government and constituent authorities of metropolitan regions can develop new instruments to enhance effective coordination and rely upon incentive intensity based or mixed instruments, mainly to encourage private companies and citizens to become more deeply involved using various arrangements, such as networking or co-production, to enhance effective coordination for metropolitan planning.

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179. Xu, J., & Yeh, A. G. (Eds.). (2011). *Governance and planning of mega-city regions: An international comparative perspective*. Routledge.
180. Yaro, R. D. & Ronderos, L. N. (2011). International metropolitan governance: Typology, case studies and recommendations. Columbia Urbanization Review, The World Bank Group and Regional Plan Association, [http://www.urbanknowledge.org/ur/docs/Colombia Interjurisdictional%20Coordination.pdf](http://www.urbanknowledge.org/ur/docs/Colombia_Interjurisdictional%20Coordination.pdf) Accessed 30 November 2012.
181. Zimmerman, J. F. (1970). Metropolitan reform in the US: An overview. *Public Administration Review*, 30(5), 531-543.

Appendixes

Appendix 1.1

Horizontal Fragmentation in the Jakarta Metropolitan Region

The JMR does not have a metropolitan government. It consists of the Capital Special Region of Jakarta and 9 autonomous districts as part of the Province of West Java and the Province of Banten. Since this region was declared officially as a metropolitan region, known as Jabotabek, in 1976, there was fragmentation of local government in this region and then more increasing after the reform in 1998 and the new policy of decentralization and local autonomy implemented in 2001. This new decentralization stimulates proliferation (Firman, 2009). In JMR, a number of member increases from 6 (six) members to 12 (twelve) members (Table 1). It is a type of fragmentation which Dolan (1990) defines this fragmentation as increased number of local government in a region.

Table 1
Increased Local Government Fragmentation in the JMR 1976 – 2008 (still exist in 2016)

No.	Local Governments in the JMR	Milestone of Local Government Fragmentation in the JMR						
		1976	1993	1996	1999	2000	2006	2008
1	The Province of Special Region of Jakarta	V						
2	The Province of West Java	V						
3	The Province of Banten					V**		
4	the Municipality of Depok				V*			
5	the Municipality of Bogor	V						
6	the Municipality of Bekasi			V*				
7	the Regency of Bogor	V						
8	the Regency of Bekasi	V						
9	the Regency of Cianjur						V***	
10	the Municipality of Tangerang		V*					
11	the Municipality of Tangerang Selatan							V**
12	the Regency of Tangerang	V						

Source:

Note:

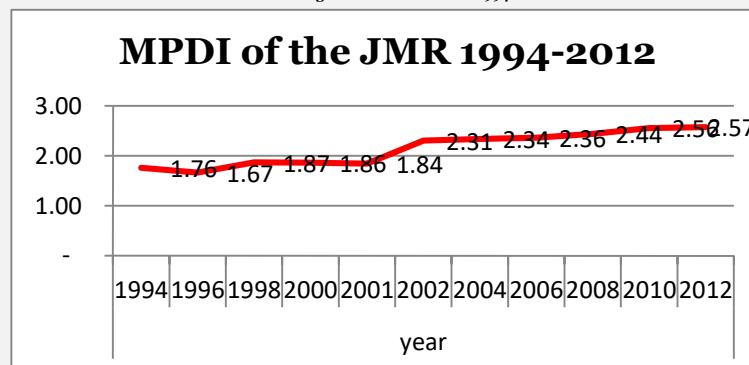
* empowered political status from administrative district to autonomous district,

** the result of proliferation

*** involved due to environmental reason (the highest upper stream area in the JMR)

Fragmentation in the JMR is not only from number of local governments, but also in politics. A calculation made by author through Metropolitan Power Diffusion Index (MPDI), which was introduced by Hamilton, et al., (2004), indicates that political fragmentation in the JMR increases from 1,76 in 1994 to 2,57 in 2012 (Figure 1). According to Miller (2002) classification, fragmentation in the JMR can be classified as slightly centralized. It means that there is an organization which quiet has dominant role in the JMR. In the case of the JMR, that organization is the Provincial Government of Capital Special Region of Jakarta.

Figure 1
Political Fragmentation in the JMR 1994-2012



source: author's calculation, data from the Ministry of Home Affairs and the Ministry of Finance.

Appendix 2.1

The literature reviewed (96 articles and books)

No.	Smartcat (S) or Purposive (P)	Article and book	Article (A) or Book (B)	publication year	TC	Validation			Geographics Distribution							Methodology					Focus of discussion					combination of two or more elements and objectives
						Amsterdam	London	Portland	Australia	Europe	North America	Asia	Africa	South America	case studies	theory and concept	literature reviews	survey	model	vertical relation	horizontal relation	planning coordination	implementation coordination			
1	P	Albrechts, L. (2013). Reframing strategic spatial planning by using a coproduction perspective. <i>Planning Theory</i> , 12 (1), 46-63.	A	2013	1											1							1			
2	p	Albrechts, Louis. "Reconstructing decision-making: planning versus politics." <i>Planning Theory</i> 2, no. 3 (2003): 249-268.	A	2003													1							1		
3	S	Alexander, E. 2002. Metropolitan planning in Amsterdam	A	2002						1						1									1	
4	p	Kreukels A, 2000, "An institutional analysis of strategic spatial planning: the case of federal urban policies in Germany", in The Revival of Strategic Spatial Planning Eds W Salet.	B	2000						1						1							1			
5	s	Abbott, J. (2009). Planning for complex metropolitan regions: A better future or a more certain one? <i>Journal of Planning Education and Research</i> , 28(4), 503-517.	A	2009					1		1					1							1			
6	p	Albrechts, Louis. "Bridge the gap: From spatial planning to strategic projects." <i>European Planning Studies</i> 14, no. 10 (2006): 1487-1500.	A	2006	1												1								1	
7	s	Alden, J. (1984). Metropolitan planning in japan. <i>Town Planning Review</i> , 55(1), 55-55.	A	1984								1				1									1	
8	s	Alexander, I., & Greive, S. (1997). Modernist town planning and metropolitan planning: Reflections from gordon stephenson. <i>Urban Policy and Research</i> , 15(3), 225-233.	A	1997					1									1					1			
9	s	Allport, R. J., & Von Einsiedel, N. (1986). An innovative approach to metropolitan management in the Philippines. <i>Public Administration and Development</i> , 6(1), 23-48.	A	1986								1				1									1	
10	s	Armstrong, A. (1986). Urban Planning in Developing Countries: An Assessment of Master Plans for Dar Es Salaam, Tanzania. <i>Singapore Journal of Tropical Geography</i> , 7(1), 12-27.	A	1986	1									1		1									1	

No.	Smartcat (S) or Purposive (P)	Article and book	Article (A) or Book (B)	publication year	TC	Validation			Geographics Distribution							Methodology					Focus of discussion					combination of two or more elements and objectives
						Amsterdam	London	Portland	Australia	Europe	North America	Asia	Africa	South America	case studies	theory and concept	literature reviews	survey	model	vertical relation	horizontal relation	planning coordination	implementation coordination			
11	s	Barton, J. R. (2013). Climate change adaptive capacity in Santiago de Chile: creating a governance regime for sustainability planning. International Journal of Urban and Regional Research, 37(6), 1916-1933.	A	2013											1	1										1
12	s	Basolo, V. (2003). US regionalism and rationality. Urban Studies, 40(3), 447-462.	A	2003							1						1						1			
13	s	Basolo, V., & Hastings, D. (2003). Obstacles to regional housing solutions: A comparison of four metropolitan areas. Journal of Urban Affairs, 25(4), 449-472.	A	2003							1					1						1				
14	s	Bohm, K., Ekdahl, L., Bohm, K., Ekdahl, L., Gullberg, A., & Lindstrom, B. (1981). Metropolitan Planning and Development-the Case of Stockholm. Acta Sociologica, 24(3), 193-198.	A	1981						1						1										1
15	s	Buckwalter, D. W. (1984). State-municipal relations: Improving the arch of federalism. State & Local Government Review, 27-33.	A	1984							1						1									1
16	s	Bunker, R. (2009). Situating australian metropolitan planning. International Planning Studies, 14(3), 233-252.	A	2009					1							1						1				
17	s	Bunker, R. (2012). Reviewing the path dependency in australian metropolitan planning. Urban Policy and Research, 30(4), 443-452.	A	2012					1							1							1			
18	s	Bunker, R., & Ruming, K. (2010). How National Planning Might Enrich Metropolitan Planning in Australia: Practice Review. Urban policy and research, 28(3), 327-334.	A	2010					1							1							1			
19	s	Chakraborty, A. (2010). Scenario planning for effective regional governance: Promises and limitations. State and Local Government Review, 42(2), 156-167.	A	2010							1						1									1
20	s	Dakin, J. (1973). The Evaluation of Plans. A study of metropolitan planning in Toronto. Town Planning Review, 44(1), 3.	A	1973							1					1							1			

No.	Smartcat (S) or Purposive (P)	Article and book	Article (A) or Book (B)	publication year	TC	Validation			Geographics Distribution							Methodology					Focus of discussion					combination of two or more elements and or criteria
						Amsterdam	London	Portland	Australia	Europe	North America	Asia	Africa	South America	case studies	theory and concept	literature reviews	survey	model	vertical relation	horizontal relation	planning coordination	implementation coordination			
21	s	DIAMOND, D. (2002). Managing the metropolis in the global village. <i>Geography</i> , 87(4), 305-315.	A	2002												1									1	
22	s	Douay, N. (2010). Collaborative planning and the challenge of urbanization: Issues, actors and strategies in Marseilles and Montreal metropolitan areas. <i>Canadian Journal of Urban Research</i> , 19(1), 50.	A	2010					1		1				1							1				
23	p	Feiock RC, 2007,	A	2007													1						1			
24	p	Feiock RC, 2009, "Metropolitan Governance and Institutional Collective Action" <i>Urban Affairs Review</i> 44 356-377	A	2009													1						1			
25	p	Feiock, RC, 2013,	A	2013													1						1			
26	s	Filion, P. (1996). Metropolitan planning objectives and implementation constraints: Planning in a post-Fordist and postmodern age. <i>Environment and Planning A</i> , 28(9), 1637-1660.	A	1996													1							1		
27	s	Filion, P. (2001). The urban policy-making and development dimension of Fordism and post-Fordism: a Toronto case study. <i>Space and Polity</i> , 5(2), 85-111.	A	2001							1						1								1	
28	s	FORSTER, C. (2006). The challenge of change: Australian cities and urban planning in the new millennium. <i>Geographical Research</i> , 44(2), 173-182.	A	2006					1							1									1	
29	s	Gerber, E. R., & Gibson, C. C. (2009). Balancing regionalism and localism: How institutions and incentives shape American transportation policy. <i>American Journal of Political Science</i> , 53(3), 633-648.	A	2009							1					1							1			
30	s	Gleeson, B., Darbas, T., & Lawson, S. (2004). Governance, sustainability and recent Australian metropolitan strategies: a socio-theoretic analysis. <i>Urban Policy and Research</i> , 22(4), 345-366.	A	2004					1								1								1	

No.	Smartcat (S) or Purposive (P)	Article and book	Article (A) or Book (B)	publication year	TC	Validation			Geographics Distribution						Methodology					Focus of discussion				
						Amsterdam	London	Portland	Australia	Europe	North America	Asia	Africa	South America	case studies	theory and concept	literature reviews	survey	model	vertical relation	horizontal relation	planning coordination	implementation coordination	comparison of two or more elements and or criteria
31	s	Goldman, T. (2000). Regionalism through partnerships? metropolitan planning since iSTEa. <i>Journal of Planning Literature</i> , 15(1).	A	2000							1				1									1
32	p	Hamilton, D K, Miller, D Y, & Paytas, J, 2004, "Exploring the horizontal and vertical dimensions of the governing of metropolitan regions" <i>Urban Affairs Review</i> 40 147-182	A	2004							1					1								1
33	p	Hamilton, D. K. (2000). Organizing government structure and governance functions in metropolitan areas in response to growth and change: a critical overview. <i>Journal of Urban Affairs</i> , 22 (1), 65-84.	A	2000													1				1			
34	s	Harris, N. (1983). Metropolitan planning in the developing countries: Tasks for the 1980s. <i>Habitat International</i> , 7(3-4), 5-17.	A	1983								1			1						1			
35	s	Haughton, G., & McManus, P. (2012). Neoliberal experiments with urban infrastructure: the Cross City Tunnel, Sydney. <i>International Journal of Urban and Regional Research</i> , 36(1), 90-105.	A	2012					1							1								1
36	p	Hawkins, B. W., Ward, K. J., & Becker, M. P. (1991). Governmental consolidation as a strategy for metropolitan development. <i>Public Administration Quarterly</i> , 253-267.	A	1991												1								1
37	p	Healey, P. (2006). Transforming governance: Challenges of institutional adaptation and a new politics of space 1. <i>European planning studies</i> , 14 (3), 299-320.	A	2006												1						1		
38	p	Healey, P. (2009). City regions and place development. <i>Regional Studies</i> , 43(6), 831-843.	A	2009						1					1									1
39	p	Healey, Patsy. "Relational complexity and the imaginative power of strategic spatial planning 1." <i>European Planning Studies</i> 14, no. 4 (2006b): 525-546.	A	2006						1					1									1
40	p	Heinelt, Hubert, and Karsten Zimmermann. "How can we explain diversity in metropolitan governance within a country? Some reflections on recent developments in Germany." <i>International journal of urban and regional research</i> 35, no. 6 (2011): 1175-1192.	A	2011						1					1						1			

No.	Smartcat (S) or Purposive (P)	Article and book	Article (A) or Book (B)	publication year	TC	Validation			Geographics Distribution						Methodology					Focus of discussion				
						Amsterdam	London	Portland	Australia	Europe	North America	Asia	Africa	South America	case studies	theory and concept	literature reviews	survey	model	vertical relation	horizontal relation	planning coordination	implementation coordination	combination of two or more elements and or children
41	p	Heinz, W. (2007). Inter-Municipal Cooperation in Germany: The mismatch between existing necessities and suboptimal solutions. In <i>Inter-municipal cooperation in Europe</i> (pp. 91-115). Springer Netherlands.	B	2007						1					1									1
42	p	Herrschel, Tassilo, and Peter Newman. "New regions in England and Germany: An examination of the interaction of constitutional structures, formal regions and informal institutions." <i>Urban Studies</i> 37, no. 7 (2000): 1185-1202.	A	2000						1					1									1
43	p	Hulst, Rudie. "Regional governance in unitary states: lessons from the Netherlands in comparative perspective." <i>Local government studies</i> 31, no. 1 (2005): 99-120.	A	2005						1					1									1
44	s	Janssen-Jansen, L., & Hutton, T. (2011). Reconfiguring the governance structures of the twenty-first-century city-region: Observations and conclusions. <i>International Planning Studies</i> , 16(3), 305-312.	A	2011						1	1							1						1
45	s	Kipfer, S., & Keil, R. (2002). Toronto inc? planning the competitive city in the new toronto. <i>Antipode</i> , 34(2), 227-264.	A	2002								1					1							1
46	p	Kubler, Daniel, and Hubert Heinelt. "2 Metropolitan governance, democracy and the dynamics of place." <i>Metropolitan Governance in the 21st Century: Capacity, Democracy and the Dynamics of Place</i> (2004): 8.	B	2004												1								1
47	s	Levin, M. (1967). Planners and metropolitan planning. <i>Journal of the American Institute of Planners</i> , 33(2), 78-90.	A	1967							1					1								1
48	s	Lewis, P. (1999). Regionalism and representation: Measuring and assessing representation in metropolitan planning organizations. <i>Journal of Planning Literature</i> , 13(4).	A	1999							1					1								1
49	s	Lindquist, E. (2009). Regional adaption to climate change in the united states: Are metropolitan planning organizations responding? Iop Conference Series: Earth and Environmental Science, 6(33).	A	2009							1					1				1				
50	s	Lindstrom, B. (2010). The metropolitan mayors caucus: Institution building in a political fragmented metropolitan region. <i>Urban Affairs Review</i> , 46(1), 37-67.	A	2010							1				1						1			

No.	Smartcat (S) or Purposive (P)	Article and book	Article (A) or Book (B)	publication year	TC	Validation			Geographics Distribution						Methodology					Focus of discussion				
						Amsterdam	London	Portland	Australia	Europe	North America	Asia	Africa	South America	case studies	theory and concept	literature reviews	survey	model	vertical relation	horizontal relation	planning coordination	implementation coordination	combination of two or more elements and or criteria
51	s	M, P. (2005). Neoliberalist planning? re-thinking and re-casting sydney's metropolitan planning. <i>Geographical Research</i> , 43(1), 59-70.	A	2005					1							1					1			
52	s	McCarney, P. L. (1989). Building new institutions for metropolitan planning. <i>Habitat International</i> , 13(3), 15-18.	A	1989						1					1									1
53	s	McGuirk, P. (2007). The Political Construction of the City-Region: Notes from Sydney. <i>International Journal of Urban and Regional Research</i> , 31(1), 179-187.	A	2007					1							1								1
54	s	McGuirk, P., & O'Neill, P. (2002). Planning a prosperous sydney: The challenges of planning urban development in the new urban context. <i>Australian Geographer</i> , 33(3), 301-316.	A	2002					1						1									1
55	s	Mees, P. (2003). Paterson's curse: The attempt to revive metropolitan planning in melbourne. <i>Urban Policy and Research</i> , 21(3), 287-299.	A	2003					1						1									1
56	p	Miller, David Young, and Joo Hun Lee. "Making sense of metropolitan regions: A dimensional approach to regional governance." <i>Publius: The Journal of Federalism</i> 41, no. 1 (2011): 126-145.	A	2011					1						1						1			
57	s	Neuman, M. (1996). Images as institution builders: metropolitan planning in Madrid. <i>European Planning Studies</i> , 4(3), 293-312.	A	1996						1						1					1			
58	s	Neuman, M., & Gavinha, J. (2005). The planning dialectic of continuity and change: The evolution of metropolitan planning in madrid. <i>European Planning Studies</i> , 13(7), 985-1012.	A	2005						1					1									1
59	p	Newman, Peter. "Changing patterns of regional governance in the EU." <i>Urban Studies</i> 37, no. 5/6 (2000): 895.	A	2000						1					1									1
60	p	Oakerson, R. J., & Parks, R. B. (1989). Local government constitutions: A different view of metropolitan governance. <i>The American Review of Public Administration</i> , 19(4), 279-294.	A	1989							1					1					1			

No.	Smartcat (S) or Purposive (P)	Article and book	Article (A) or Book (B)	publication year	TC	Validation			Geographics Distribution						Methodology					Focus of discussion				
						Amsterdam	London	Portland	Australia	Europe	North America	Asia	Africa	South America	case studies	theory and concept	literature reviews	survey	model	vertical relation	horizontal relation	planning coordination	implementation coordination	comparison of two or more elements and or criteria
61	P	Ostrom, Vincent, Charles M. Tiebout, and Robert Warren. "The organization of government in metropolitan areas: a theoretical inquiry." <i>American political science review</i> 55, no. 04 (1961): 831-842.	A	1961							1					1								1
62	P	Parks, R. B., & Oakerson, R. J. (2000). Regionalism, localism, and metropolitan governance: Suggestions from the research program on local public economies. <i>State & Local Government Review</i> , 169-179.	A	2000												1					1			
63	S	Pisano, M. (2011). Developing the Institutional Capacity to Implement Large-Scale Infrastructure Projects. <i>Public Works Management & Policy</i> , 16(3), 228-239.	A	2011												1					1			
64	S	Rayle, L., & Zegras, C. (2013). The emergence of inter-Municipal collaboration: Evidence from metropolitan planning in Portugal. <i>European Planning Studies</i> , 21(6), 867-889.	A	2013						1					1									1
65	P	Roberts, P. "The evolution and purposes of metropolitan strategic planning." <i>in: P. Roberts, K. Thomas, G. Williams (red.), Metropolitan Planning in Britain: A Comparative Study</i> , London: Jessica Kingsley Publishers (1999).	B	1999						1					1							1		
66	P	Rothblatt, D. (1994). North American metropolitan planning: Canadian and U.S. perspectives. <i>Journal of the American Planning Association</i> , 60(4), 501-520.	A	1994							1				1									1
67	S	Salet, W. (2006). Rescaling territorial governance in the Randstad Holland: The responsiveness of spatial and institutional strategies to changing socio-economic interactions. <i>European Planning Studies</i> , 14(7), 959-978.	A	2006						1						1								1
68	S	Salet, W. G., Thornley, A., & Kreukels, A. (2003). <i>Metropolitan governance and spatial planning: comparative case studies of European city-regions</i> . Taylor & Francis.	B	2003						1					1									1
69	S	Salet, W., & Thornley, A. (2007). Institutional influences on the integration of multilevel governance and spatial policy in European city-regions. <i>Journal of Planning Education and Research</i> , 27(2), 188-198.	A	2007							1				1									1
70	P	Salet, W., & Woltjer, J. (2009). New concepts of strategic spatial planning dilemmas in the Dutch Randstad region. <i>International Journal of Public Sector Management</i> , 22(3), 235-248.	A	2009						1					1									1

No.	Smartcat (S) or Purposive (P)	Article and book	Article (A) or Book (B)	publication year	TC	Validation			Geographics Distribution						Methodology					Focus of discussion					combination of two or more elements and or studies
						Amsterdam	London	Portland	Australia	Europe	North America	Asia	Africa	South America	case studies	theory and concept	literature reviews	survey	model	vertical relation	horizontal relation	planning coordination	implementation coordination		
71	s	Salet, W., Vermeulen, R., Savini, F., Dembski, S., Thierstein, A., Nears, P., ... & Salet, W. (2015). Planning for the new European metropolis: functions, politics, and symbols/Metropolitan regions: functional relations between the core and the periphery/Business investment decisions and spatial planning policy/Metropolitan challenges, political responsibilities/Spatial imaginaries, urban dynamics and political community/Capacity-building in the city region: creating common spaces/Which challenges for today's European metropolitan spaces?. <i>Planning Theory & Practice</i> , 16 (2), 251-275.	A	2015						1					1										1
72	p	Santos. (2013). Planning a metropolis from infrastructure: Lisbon from 1940 to 1966. <i>Journal of Planning History</i> , 12(4), 312-333.	A	2013						1						1									1
73	s	Savitch, Hank, and Ronald K. Vogel. "Regionalism and urban politics." <i>Theories of urban politics</i> 2 (2009): 106-124.	A	2009							1				1						1				
74	p	Sciara, G., & Wachs, M. (2007). Metropolitan transportation funding. <i>Public Works Management & Policy</i> , 12(1), 378-394.	A	2007						1						1									1
75	p	SEARLE, G. (2004). Planning discourses and sydney's recent metropolitan strategies. <i>Urban Policy and Research</i> , 22(4), 367-391.	A	2004					1						1										1
76	p	Searle, G., & Bunker, R. (2010). Metropolitan strategic planning: An australian paradigm? <i>Planning Theory</i> , 9(3), 163-180.	A	2010					1							1									1
77	p	Spiller, M. (2005). Special report: Rebuilding our metropolitan planning institutions. <i>Australian Planner</i> , 42(3), 14-15.	A	2005					1							1									1
78	s	Teisman, Geert R., and Erik-Hans Klijn. "Partnership arrangements: governmental rhetoric or governance scheme?." <i>Public administration review</i> 62, no. 2 (2002): 197-205.	A	2002												1						1			
79	p	Thijssse, J. (1982). Metropolitan planning in the netherlands: Conurbation holland. <i>Habitat International</i> , 6(3), 367-385.	A	1982						1					1										1
80	p	Thomas, K., & Roberts, P. (2000). Metropolitan strategic planning in England: strategies in transition. <i>Town Planning Review</i> , 71(1), 25.	A	2000						1						1						1			

No.	Smartcat (S) or Purposive (P)	Article and book	Article (A) or Book (B)	publication year	TC	Validation			Geographics Distribution							Methodology					Focus of discussion					comparison of two or more elements and or criteria
						Amsterdam	London	Portland	Australia	Europe	North America	Asia	Africa	South America	case studies	theory and concept	literature reviews	survey	model	vertical relation	horizontal relation	planning coordination	implementation coordination			
81	s	Tiebout, C. M. (1956). A pure theory of local expenditures. <i>The journal of political economy</i> , 416-424.	A	1956												1						1				
82	p	Visser, J. A. (2004). Voluntary regional councils and the new regionalism: Effective governance in the smaller metropolis. <i>Journal of Planning Education and Research</i> , 24(1), 51-63.	A	2004							1					1						1				
83	p	Vogel, R. K., & Nezelkewicz, N. (2002). Metropolitan planning organizations and the new regionalism: The case of Louisville. <i>Publius: The Journal of Federalism</i> , 32(1), 107-129.	A	2002							1					1						1				
84	s	Walker, David B. "Snow White and the 17 Dwarfs: From metro cooperation to governance." <i>National Civic Review</i> 76, no. 1 (1987): 14-28.	A	1987							1					1						1				
85	p	Watson, V. (1998). Planning under political transition - lessons from cape town's metropolitan planning forum. <i>International Planning Studies</i> , 3(3), 335-350.	A	1998									1			1										1
86	p	Watson, V. (2002). Change and continuity in spatial planning: metropolitan planning in Cape Town under political transition. <i>Urban Forum</i> , 14(1), 119-121.	A	2002										1		1										1
87	s	Webster, Chris. "The new institutional economics and the evolution of modern urban planning: Insights, issues and lessons." <i>Town Planning Review</i> 76, no. 4 (2005): 455-502.	A	2005												1							1			
88	p	Wheeler, S. (2001). Planning for metropolitan sustainability. <i>Journal of Planning Literature</i> , 15(3).	A	2001												1							1			
89	s	Wheeler, Stephen M. "The evolution of urban form in Portland and Toronto: implications for sustainability planning." <i>Local Environment</i> 8, no. 3 (2003): 317-336.	A	2003							1					1										1
90	p	Wolf, J. F., & Beth Farquhar, M. (2005). Assessing progress: The state of metropolitan planning organizations under ISTE and TEA-21. <i>International Journal of Public Administration</i> , 28(13-14), 1057-1079.	A	2005							1							1								1

No.	Smartcat (S) or Purposive (P)	Article and book	Article (A) or Book (B)	publication year	TC	Validation			Geographics Distribution						Methodology					Focus of discussion				
						Amsterdam	London	Portland	Australia	Europe	North America	Asia	Africa	South America	case studies	theory and concept	literature reviews	survey	model	vertical relation	horizontal relation	planning coordination	implementation coordination	combination of two or more elements and or criteria
91	s	Xu, J., & Yeh, A. G. (Eds.). (2010). <i>Governance and planning of mega-city regions: An international comparative perspective</i> . Routledge.	B	2010						1	1	1			1									1
92	p	YIFTACHEL, O. (1989). Boundary change and institutional conflict in the planning of central Perth. <i>New Zealand Geographer</i> , 45(2), 58-67.	A	1989					1						1									1
93	p	Yiftachel, O. (2008). The role of the state in metropolitan planning: The case of perth, western australia, 1930–1970. <i>Urban Policy and Research</i> , 6(1), 8-18.	A	2008					1						1					1				
94	p	Yiftachel, O., & Alexander, I. (1995). The state of metropolitan planning: Decline or restructuring? <i>Environment and Planning C: Government and Policy</i> , 13(3), 273-296.	A	1995					1						1									1
95	s	Zimmerman, J. F. (1970). Metropolitan reform in the US: An overview. <i>Public Administration Review</i> , 30(5), 531-543.	A	1970					1						1					1				
96	s	Allred, D., & Chakraborty, A. (2015). Do Local Development Outcomes Follow Voluntary Regional Plans? Evidence From Sacramento Region's Blueprint Plan. <i>Journal of the American Planning Association</i> , 81(2), 104-120.	A	2015							1				1							1		

Appendix 2.2

Metropolitan Planning in Greater London and Its Dynamic Shifts

No.	Period	Institutional setting of the metropolitan region	Coordination arrangement of metropolitan planning						
			Coordination capacity of the metropolitan spatial plan			Coordination mechanism of plan implementation			Prototype
			Administrative control	Incentive intensity	Type	Administrative control	Incentive intensity	Type	
1.	Greater London Council (GLC) in 1965-1986	<ul style="list-style-type: none"> Enactment and implementation of the London Government Act 1963 (Collins, 1994), Based on the London Government Act 1963, the Greater London Council (GLC) was established in 1965 (Collins, 1994; Rao, 2002), Enactment and implementation of the Town and Country Planning Act 1968 (Hagman, 1971; Field, 1983; Trevors, 2007), Based on the Town and Country Act 1968, the Greater London Development Plan (GLDP) was developed (Haywood, 1998), Enactment and implementation of the Town and Country Planning Act 1971 (Field, 1983), Plan implementation used 'deterministic approach' (Tewdr-Jones, 2011) 	<ul style="list-style-type: none"> The GLDP was designed as the metropolitan frame for Greater London (Field, 1983, Loss direction (Haywood, 1998) No formal regulation coordinating boroughs to prepare plan (Field, 1983) 	Boroughs had freedom to interpret GLDP (Field, 1983)	Strategic plan	<ul style="list-style-type: none"> Loss direction of the GLDP which did not ask conformity from boroughs (Rao, 2002) 	Implementation of GLDP was highly dependent on boroughs interpretation and implementation (Field, 1983)	The informal-discontinuous mechanism	Prototype I

No.	Period	Institutional setting of the metropolitan region	Coordination arrangement of metropolitan planning						
			Coordination capacity of the metropolitan spatial plan			Coordination mechanism of plan implementation			Prototype
			Administrative control	Incentive intensity	Type	Administrative control	Incentive intensity	Type	
2.	So-called 'transition' or 'fragmentation' era in 1986-1999	<ul style="list-style-type: none"> GLC was abolished in 1986 through the Local Government Act 1985 (Thornley, 1998), The abolishment of GLC generated fragmentation, dividing into boroughs and QUANGOs (Newman and Thornley, 1997) 	<ul style="list-style-type: none"> Planning for Greater London was fragmented into 32 boroughs Unitary Development Plan (UDP) whose contents were constrained by the Planning Policy Guidance Notes (PPGs) (Newman and Thornley, 1997), To manage cross-border issues, those fragmented boroughs established LPAC (London Planning Advisory Council) (Haywood, 1998; Thornley, et al, 2005), Establishment of Strategic Guidance for 	Abolition of the GLC provided new opportunities to private entities and the City to contribute significantly for London development (Rao, 2007).	Strategic plan	<ul style="list-style-type: none"> The abolition of GLC increased fragmentation and generated difficulties in resource control and government policy implementation (Newman and Thornley, 1997) 	<p>Competition to get money from central government through Single Regeneration</p> <p>Budget Challenge Fund or SRB generating lack of strategic thinking and coordination (Newman and Thornley, 1997)</p>	The informal-discontinuous mechanism	Prototype I

No.	Period	Institutional setting of the metropolitan region	Coordination arrangement of metropolitan planning						
			Coordination capacity of the metropolitan spatial plan			Coordination mechanism of plan implementation			Prototype
			Administrative control	Incentive intensity	Type	Administrative control	Incentive intensity	Type	
			London Authorities (Newman and Thornley, 1997)						
3.	Greater London Authority (GLA) in 1999-2014	Based on the Greater London Authority Act 1999, the British government established the Greater London Authority (GLA) in 1999 (Travers, 2002),	<ul style="list-style-type: none"> Developed the Spatial Development Strategy (SDS, London Plan) as mandated by the Greater London Act 1999. It is a responsibility of the Mayor of London (GLA, 2004; Rao, 2007), Mayor has some power to compel boroughs' plan following London' strategy (Rao, 2007) London's boroughs should make conformity to SDS (West, et al, 2002) 	Boroughs have flexibility which can develop their local plan (Pilgrim, 2006)	Strategic-master plan	Projects in SDS should be accommodated in local plans (see www.london.gov.uk/planning/priorities)		The formal-continuous mechanism	Prototype D

Appendix 2.3

Metropolitan Planning in Amsterdam Metropolitan Area and Its Dynamic Shifts

No.	Period	Institutional setting of the metropolitan region	Coordination arrangement of metropolitan planning						
			Coordination capacity of the metropolitan spatial plan			Coordination mechanism of plan implementation			Prototype
			Administrative control	Incentive intensity	Type	Administrative control	Incentive intensity	Type	
1.	<i>Informele Agglomeratie Overleg</i> (IAO) (1972-1985)	Inter-municipal cooperation for information exchange and consultation (under the law of 1950 (<i>Wet voor Gemeenschappelijke Regeling-WGR</i>)) (Alexander, 2002 and 2006; Klusman and Teunissen, 2003)		Give flexibility to municipalities to decide to develop contents in their plan (Klusman and Teunissen, 2003).	Strategic plan		Give flexibility to municipalities to decide to implement the plan (Klusman and Teunissen, 2003).	The informal-discontinuous mechanism	Prototype I
2.	Transformation from the IAO to a more formal organisation, the ROA or <i>Regionaal Overleg Amsterdam</i> (1985-1993).	<ul style="list-style-type: none"> Amendment of the Basic Enabling Law 1950 The ROA did not provide rules for metropolitan planning in the City Region of Amsterdam 		Give flexibility to municipalities to interpret the Amsterdam structure plan (Alexander, 2002).	Strategic plan		Give flexibility to municipalities to implement the Amsterdam structure plan (Alexander, 2002).	The informal-discontinuous mechanism	Prototype I

No.	Period	Institutional setting of the metropolitan region	Coordination arrangement of metropolitan planning						
			Coordination capacity of the metropolitan spatial plan			Coordination mechanism of plan implementation			Prototype
			Administrative control	Incentive intensity	Type	Administrative control	Incentive intensity	Type	
3.	New ROA (the city-region)/ <i>Regional Orgaan Amsterdam</i> (1993-	Based on the Framework Law (Kaderwet) in 1993		Amsterdam has a particular position as provincial plan reviewer, to review municipalities' plans (Klausman and Teunissen, 2003).	Strategic plan	The City-Region of Amsterdam has statutory task to implement some policies (Janssen-Jansen, 2011).		The formal-continuous mechanism	Prototype G
4.	Amsterdam Metropolitan Area 2008-	Based on the Spatial Plan Act 2008: inter-local government cooperation through bilateral agreement between Amsterdam and its surrounding municipalities,	<ul style="list-style-type: none"> Bilateral agreement among municipalities (Poelgeest, 2011) Rule to oblige municipal council to enact structural visions (translated by Maljere, 2011) 	Involve wider participants in open process (Ponteyn, 2011)	Strategic-master plan	<ul style="list-style-type: none"> Joint agreement among municipalities containing plan for realization, timeline and legislation (Lauwers, 2011) Rigid rules to manage main green structure (Lauwers, 2011) 		The formal-continuous mechanism	Prototype D

Appendix 2.4

Metropolitan Planning in Metro Portland and Its Dynamic Shifts

No.	Period	Institutional setting of the metropolitan region	Coordination arrangement of metropolitan planning						
			Coordination capacity of the metropolitan spatial plan			Coordination mechanism of plan implementation			Prototype
			Administrative control	Incentive intensity	Type	Administrative control	Incentive intensity	Type	
1.	CRAG and MSD (1966-1973)	Voluntary cooperation (Cotugno and Seltzer, 2011)		<ul style="list-style-type: none"> Prior 1973, each local government formulates its strategy without a regional perspective (Knaap, 1994) 	Strategic plan		Each local government develops each plan	The informal-discontinuous mechanism	Prototype I
2.	CRAG and MSD (1973-1978)	Voluntary cooperation	"Acknowledgement politics", to create a coherent plan for the metropolitan, the state can forestall local land use authority and withhold grants (Knaap, 1994, p. 4).		Master plan	Different politics in plan implementation (generates plan implementation deficit) (Knaap, 1994).	Local government, landowners and developers have different interest (Knaap, 1994).	The informal-discontinuous mechanism	Prototype C
3.	The Metro Council and Executive Officers	Metropolitan government (in transition) (Gibson and Abbott, 2002; Cotugno and seltzer, 2011)	<ul style="list-style-type: none"> Through the Oregon Land Use Act 1973 established Urban Growth Boundary, a legal binding for land use planning 		Master plan	The JPATC has financial power to allocate transportation funding and role to accelerate implementation		Formal-continuous mechanism	Prototype A

No.	Period	Institutional setting of the metropolitan region	Coordination arrangement of metropolitan planning						
			Coordination capacity of the metropolitan spatial plan			Coordination mechanism of plan implementation			Prototype
			Administrative control	Incentive intensity	Type	Administrative control	Incentive intensity	Type	
	(1978-1992)		<ul style="list-style-type: none"> Through the Joint Policy Advisory Committee on Transportation (JPACT), the Metro follows state policy 			(Cotugno and Seltzer, 2011)			
4.	The Metro Portland (1992-recently/2014)	Utilizing Home Rule, through Metro Charter 1992, Portland people created the Metropolitan government which called as Metro	<ul style="list-style-type: none"> Local governments should accommodate the Metro 2040 Growth Concept and consistent with their local plans (Cotugno and Seltzer, 2011) 	the Metro offers collaborative approach to local governments to prepare the Metro 2040 Growth (Cotugno and Seltzer, 2011),	Master-strategic plan	The Metro issued Urban Growth Management Functional Plan to safeguard implementation of the Metro 2040 Growth Concept and the Regional Framework Plan		The formal-continuous mechanism	Prototype D

Appendix 4.1

List of Interviewees

Actor Level in Governance	Infrastructure and Planning	Administrative
National	N11, N12	N21, N22
Regional		R11
Provincial	P11	P21, P12
Local	L11	-

Appendix 4.2

List of Open Questions

In-depth interviews

Name :
Position :
Organisation :

1. Do you know a collective decision made by some actors to build the Ciawi dam?
2. Are you involved in the process to prepare the decision or to prepare for its implementation?
3. Could you please tell me on process to prepare the Ciawi dam implementation which your organisation is involved?
4. Could you please tell me on difficulties during the preparation of the Ciawi dam development?
5. Could you please tell me on role of the BKSP *Jabodetabekpunjur* on the preparation of Ciawi dam development?

Appendix 4.3

List of Online Newspapers

A. Data source for analysis of coordination capacity

No.	Source
1.	Tempo.co, February 23, 2006: https://metro.tempo.co/read/news/2006/02/23/05774376/daerah-tolak-tata-ruang-masuk-ruu-ibukota Accessed at September 22, 2016 13:00 CEST
2.	Kompas.com (January 15, 2008) http://megapolitan.kompas.com/read/2008/01/15/17143367/Jakarta.Tetap.Ngotot.Soal.Waduk.Ciawi accessed August 30, 2014 22:39 CEST
3.	Thejakartapost.com, August 7, 2008 http://www.thejakartapost.com/news/2008/08/07/jakarta-west-java-build-dam-ease-floods.html Accessed August 21, 2015 10:11 CEST
4.	Republika.co.id, September 26 2008 http://www.republika.co.id/berita/trendtek/sains/08/09/26/5085-pembangunan-waduk-ciawi-segera-terealisasi Accessed at September 23 2016 15:11 CEST
5.	Republika.co.id, September 26 2008 http://www.republika.co.id/berita/trendtek/sains/08/09/26/5085-pembangunan-waduk-ciawi-segera-terealisasi Accessed at September 23 2016 15:11 CEST
6.	Kompas.com, March 30, 2015 http://megapolitan.kompas.com/read/2015/03/30/19253271/Jalan.Tak.Berujung.untuk.Meramu.Satu.Jabodetabek?utm_source=WP&utm_medium=box&utm_campaign=Kknwp Accessed March 30 2015 15:20 CET
7.	Tempo.co, November, 21 2013 https://m.tempo.co/read/news/2013/11/21/231531390/dituding-ahok-nur-mahmudi-urus-jakarta-saja Accessed September 27 2016 10:10 CEST
8.	Tempo.co, November, 21 2013 https://m.tempo.co/read/news/2013/11/21/231531390/dituding-ahok-nur-mahmudi-urus-jakarta-saja Accessed September 27 2016 10:10 CEST
9.	Tempo.co, November 22, 2013 https://m.tempo.co/read/news/2013/11/22/231531683/ahok-nur-mahmudi-adu-mulut-soal-banjir Accessed at September 27, 2013 10:05 CEST
10.	Kompas.com, January 25 2014 http://megapolitan.kompas.com/read/2014/01/25/1458267/Rano.Karno.Wilayah.Kami.Jangan.Jadi.Korban

No.	Source
	Accessed at September 19 2016, 16:06 CEST

B. Data source for analysis of coordination mechanism

No.	Source
1.	Kompas.com, February 21, 2011 http://bisniskeuangan.kompas.com/read/2011/02/21/12020120/presiden.kenyang.dengan.pepesan.kosong?utm_source=RD&utm_medium=box&utm_campaign=Kaitrd Accessed at September 15 2016 23:32 CEST
2.	Kompas.com, February 25, 2015 http://nasional.kompas.com/read/2015/02/25/22071591/Soal.Transportasi.Massal.Jokowi.Sindir.Kota.Besar.Terlalu.Banyak.Rencana.tapi.Tanpa.Hasil Accessed at February 25 2015 17:17 CET
3.	Kompas.com, January 8, 2009 http://megapolitan.kompas.com/read/2009/01/08/21171114/Penanganan.Banjir.Jakarta.Terkendala.Dana.sejak.Zaman.Belanda Accessed at March 2 2015 11:34 CET
4.	Detik.com, January 9 2013 http://news.detik.com/berita/2137826/atasi-banjir-jakarta-waduk-baru-bakal-dibangun-di-ciawi Accessed at August 4 2015 15:38 CEST
5.	Kompas.com, January 16, 2013 http://megapolitan.kompas.com/read/2013/01/16/23070728/Jokowi.Dorong.Percepatan.Pembangunan.Waduk.Ciawi Accessed February 5 2015 16:58
6.	Kompas.com January 19, 2013 http://www.tempo.co/read/news/2013/01/19/083455539/Waduk-Ciawi-Dinilai-Tak-Bisa-Atasi-Banjir-Jakarta Accessed at January 6, 2015 17:27 CET
7.	Kompas.com January 19, 2013 http://www.tempo.co/read/news/2013/01/19/083455539/Waduk-Ciawi-Dinilai-Tak-Bisa-Atasi-Banjir-Jakarta Accessed at January 6, 2015 17:27 CET
8.	Tempo.co, February 25, 2013 http://www.tempo.co/read/news/2013/02/25/087463557/Kementerian-PU-Ubah-Desain-Waduk-Ciawi Accessed at January 6 2015 17:30 CET
9.	Kompas.com (January 21, 2014) http://megapolitan.kompas.com/read/2014/01/21/0912184/Jokowi.Jangan.Cuma.Ropat-repet.Saja.tapi.Enggak.Action Accessed: March 2, 2015 CET

No.	Source
10.	<p>Kompas.com, January 27, 2014</p> <p>http://megapolitan.kompas.com/read/2014/01/27/1823310/Kepada.Jokowi.Bupati.Bogor.Klaim.Warganya.Tak.Tolak.Pembuatan.Waduk</p> <p>Accessed at March 2 2015 16:58 CET</p>
11.	<p>Kompas.com (February 4, 2014)</p> <p>http://megapolitan.kompas.com/read/2014/02/04/1337024/Bupati.Bogor.Cuma.Pak.Jokowi.yang.Berani.Ambil.Risiko.</p> <p>Accessed at March 2, 2015</p>
12.	<p>Transbogar.co, February 4, 2014</p> <p>http://transbogar.co/read/447/04/2/2014/warga-pilih-perang-soal-pembebasan-waduk-ciawi#.UwXdCOLYNZk</p> <p>Accessed at February 20, 2014 11:50 CET</p>
13.	<p>Kompas.com, February 20, 2014</p> <p>http://megapolitan.kompas.com/read/2014/02/20/1844218/Tak.Mau.Diperas.Warga.Jokowi.Mungkin.Batalkan.Waduk.Ciawi</p> <p>Accessed March 2 2015 17:25 CET</p>
14.	<p>Kompas.com February 21, 2014</p> <p>http://megapolitan.kompas.com/read/2014/02/21/1724454/Jokowi.Minta.Bupati.Bogor.Bujuk.Warga.soal.Ganti.Rugi.Tanah</p> <p>accessed March 2 2015 17:23 CET</p>
15.	<p>Kompas.com February, 24 2014</p> <p>http://megapolitan.kompas.com/read/2014/02/24/1200523/Jokowi.Soal.Tanah.untuk.Waduk.Itu.Urusan.Bupati.Bogor</p> <p>accessed March 2 2015 17:21 CET</p>
16.	<p>Kompas.com, February 24, 2014</p> <p>http://megapolitan.kompas.com/read/2014/02/24/1452381/Basuki.Minta.Bantuan.Deddy.Mizwar.Lobi.Warga.Ciawi</p> <p>Accessed March 2 2015 17:17 CET</p>
17.	<p>Kompas.com, February 24, 2014</p> <p>http://bisniskeuangan.kompas.com/read/2014/02/24/1412159/Menteri.PU.Waduk.Ciawi.Kemahalan.Tidak.Bisa.Dibangun</p> <p>Accessed March 2 2015 17:19 CET</p>

Appendix 4.4

List of Regulations

No.	Indonesian	Translated
1.	UU No. 32 tahun 2004 tentang Pemerintahan Daerah	The Law No. 32 of 2004 on Local Polity
2.	UU No. 25 tahun 2004 tentang Sistem Perencanaan Pembangunan Nasional	The Law No. 25 of 2004 on the National Development Planning System
3.	UU No. 26 tahun 2007 tentang Penataan Ruang	The Law No. 26 of 2007 on Spatial Planning
4.	UU No. 17 tahun 2003 tentang Keuangan Negara	The Law No. 17 of 2003 on State Finance
5.	UU No. 33 tahun 2004 tentang Perimbangan Keuangan antara Pemerintah Pusat dan Pemerintahan Daerah	The Law No. 33 of 2004 on the Finance Balance between the Central Government and the Local Polities
6.	UU No. 2 tahun 2012 tentang Pengadaan Tanah bagi Pembangunan untuk Kepentingan Umum	The Law No. 2 of 2012 on Land Acquisition on Development for Public Interest
7.	Peraturan Presiden No. 54 tahun 2008 tentang Penataan Ruang Kawasan Jakarta, Bogor, Depok, Tangerang, Bekasi, Puncak, Cianjur	Presidential Regulation No. 54 of 2008 on Metropolitan Spatial Planning of Jakarta, Bogor, Depok, Tangerang, Bekasi, Puncak, Cianjur
8.	Peraturan Menteri Pekerjaan Umum No. 11 tahun 2009 tentang Pedoman Persetujuan Substansi dalam Penetapan Rancangan Peraturan Daerah tentang Rencana Tata Ruang Wilayah Provinsi dan Rencana Tata Ruang Kabupaten/Kota, beserta Rencana Rincinya.	The Decree of the Minister of Public Works No. 11 of 2009 on Guidance to Approve the Contents of Draft of Local Government Regulation on Spatial Plan of the Province and the Spatial Plan of Regency/Municipality and Its Detail
9.	Peraturan Daerah No. 22 tahun 2010 tentang Tata Ruang Provinsi Jawa Barat 2009-2029	The Local Government Regulation No. 22 of 2010 on Spatial Plan of the Province of West Java 2009-2029
10.	Peraturan Daerah No. 19 tahun 2008 tentang Tata Ruang Kabupaten Bogor 2005-2025	The Local Government Regulation No. 19 of 2008 on Spatial Plan of the Regency of Bogor 2005-2025
11.	Keputusan Presiden No. 79 tahun 1985 tentang Penetapan Rencana Tata Ruang Kawasan Puncak	The Presidential Decree No. 79 of 1985 on the Establishment of Spatial Plan of Puncak.
12.	Keputusan Presiden No. 114 tahun 1999 tentang Rencana Tata Ruang Bogor-Puncak-Cianjur	The Presidential Decree No. 114 of 1999 on the Spatial Plan of Bogor-Puncak-Cianjur.
13.	Keputusan Presiden No. 48 tahun 1983 tentang Penangan Khusus Penataan Ruang dan Penertiban serta Pengendalian Pembangunan pada Kawasan Pariwisata Puncak dan Wilayah Jalur Jalan Jakarta-Bogor-Puncak-Cianjur di Luar Wilayah Daerah Khusus Ibukota Jakarta, Kotamadya Bogor, Kota Administratif Depok, Kota Cianjur dan Kota Cibinong	Presidential Decree No. 48 of 1983 on the Special Treatment of Spatial Plan, Order and Control on Development in Puncak Area and in Street Areas of Jakarta-Bogor-Puncak-Cianjur beyond of the area of Jakarta, Municipality of Bogor, Administrative City of Depok, City of Cianjur and City of Cibinong.

Notes:

This research also collected the draft of the Memorandum of Understanding and the draft of the Memorandum of Agreement prepared by the BKSP *Jabodetabekjur* to enhance the commitment of organisations involved to develop the Ciawi dam and the Sukamahi dam.

Appendix 4.5

List of Official Studies

1. *Laporan Perkiraan Kerusakan dan Kerugian Pasca Bencana Banjir awal Februari 2007 di Wilayah Jabodetabek (Jakarta, Bogor, Depok, Tangerang, dan Bekasi), Kementerian Perencanaan Pembangunan Nasional/Badan Perencanaan Pembangunan Nasional, 2007.* (The Report of The Prediction of Damage and Loss Post-Flood in Early February 2007 in the region of *Jabodetabek* (Jakarta, Bogor, Depok, Tangerang, dan Bekasi), the Ministry of National Development Planning/the National Development Planning Agency, 2007).
2. *Laporan Akhir Peninjauan Kembali Peraturan Presiden Nomor 54 Tahun 2008 Tentang Penataan Ruang Kawasan Jabodetabekpunjur, Direktorat Jenderal Penataan Ruang, Kementerian Pekerjaan Umum, 2013.* (The Final Report on Review of Presidential Regulation Number 54 year 2008 on Spatial Plan of the *Jabodetabekpunjur*, Directorate General of Spatial Planning, the Ministry of Public Works, 2013).
3. *Pokok-pokok Review Perpres 54/2008 RTR Kawasan Perkotaan Jabodetabekpunjur, Direktorat Jenderal Penataan Ruang, Kementerian Pekerjaan Umum, 2013.* (The Major Points of the Review of the Presidential Regulation 54/2008 RTR (Spatial Plan) of Urban Area of the *Jabodetabekpunjur*, Directorate General of Spatial Planning, the Ministry of Public Works, 2013).
4. The Study on Comprehensive River Water Management Plan in JABODETABEK, March 1997, JICA
5. Jakarta Drainage and Flood Control Project, the Directorate General of Water Resource Development, the Indonesian Ministry of Public Works and Power and Directorate of International Technical Assistant, the Dutch Ministry of Foreign Affairs, prepared by the Indonesian Flood Control Project and NEDECO Netherlands, 1972.

Appendix 4.6

Analysis of Potential Transaction Cost when Uncertainties Exist

A. In Existing Coordination Capacity of the Metropolitan Spatial Plan of the *Jabodetabekpunjur* to Mitigate Floods

No.	Source of Transaction Costs	Occurred and Potential Transaction Cost
1.	Different strategies in the metropolitan spatial plan of the <i>Jabodetabekpunjur</i> for two neighborhood territories (the province of Jakarta and the municipality of Depok) to manage conservation area	Coordination cost: <ul style="list-style-type: none"> Coordination meetings to formulate strategy of catchment area which are accepted by both local governments.
2.	Different values on minimum land wide for landed-housing.	Coordination cost: <ul style="list-style-type: none"> Coordination meetings to Negotiation cost: <ul style="list-style-type: none"> To define land building coverage coefficient and to approve the spatial plan of both local governments in around border area Information cost: <ul style="list-style-type: none"> Researches
3.	Fragmentation	Coordination cost: <ul style="list-style-type: none"> Coordination meetings to find a coherence perspective
4.	Different scales of map on the spatial plans	Information cost: <ul style="list-style-type: none"> To produce maps with single scale for all spatial plans
5.	Deliberation process of the metropolitan spatial plan of the <i>Jabodetabekpunjur</i> accommodating the Ciawi dam.	Coordination cost: <ul style="list-style-type: none"> Coordination meetings to accommodate the Ciawi dam in spatial plans Information cost: <ul style="list-style-type: none"> Researches related to the Ciawi dam: design, location, impact and anticipation for hazards and disasters
6.	Deliberation process of the revision some spatial plans: the metropolitan spatial plan of the <i>Jabodetabekpunjur</i> , the spatial plan of the regency of Bogor and the spatial plan of the province of West Java accommodating the Ciawi dam.	Coordination cost: <ul style="list-style-type: none"> Coordination meetings to revise spatial plans technically, Coordination meetings to revise spatial plans politically involving the local parliament of the regency of Bogor (for spatial plan of Bogor) and the local parliament of the province of West Java (for spatial plan of West Java) Information cost: <ul style="list-style-type: none"> To review existing spatial plan
7.	The Ciawi dam, which is located in the regency of Bogor, was perceived by the government of the regency of Bogor as the interest of the governor of Jakarta.	Coordination cost: <ul style="list-style-type: none"> Coordination meetings to make sure validity of information on the Ciawi dam

B. In Existing Coordination Mechanism of the Ciawi dam and the Sukamahi dam Provision when Uncertainties Exist

Process	Source of transaction costs	Occurred and potential transaction costs
1. Response for a proposal of Jakarta to build the dam	(i) Need to fill in lack of financial capacity	Coordination cost:

Process	Source of transaction costs	Occurred and potential transaction costs
		<ul style="list-style-type: none"> (i) Coordination meetings to fill in lack of finance capacity to build the dam. Source of finance can be through the national budget or loan from international agencies.
	(ii) Need to address reluctance from donor to finance a dam	Coordination cost: <ul style="list-style-type: none"> (ii) Coordination meeting to fill in pre-requisite and other requirements
	(iii) Need to address different perspective on money value	Coordination cost: <ul style="list-style-type: none"> (iii) Coordination meetings to find a coherence perspective Information cost: <ul style="list-style-type: none"> (iv) FS for additional functions
2. Proposed the 'Megapolitan' concept	(iv) Need to address different perspective on political value	Coordination cost: <ul style="list-style-type: none"> (v) Coordination meetings for deliberation process for the new law. (vi) Coordination meetings to find a coherence perspective on benefit of the 'Megapolitan' concept
3. The metropolitan spatial plan of the <i>Jabodetabekpunjur</i>	<ul style="list-style-type: none"> (v) Need to address different perspective on money value (vi) Need to address different perspective on political value 	Coordination cost: <ul style="list-style-type: none"> (vii) Coordination meetings to accommodate the dam in the metropolitan spatial plan of the <i>Jabodetabekpunjur</i> (viii) FS for additional functions
4. inter-local government cooperation supported by the central government	<ul style="list-style-type: none"> (vii) Need to make sure on legal status of transferred-budget (collective asset ownership status) 	Coordination cost: <ul style="list-style-type: none"> (ix) Coordination meeting to find a coherence perspective. (x) Coordination meeting to establish new regulation to accommodate collective asset ownership status.
5. Feasibility Study	(viii) Require new FS	Information cost: <ul style="list-style-type: none"> (xi) Develop new FS
6. Environmental Impact Assessment	(ix) Require the new spatial plan accommodating the dams	Information cost: <ul style="list-style-type: none"> (xii) Develop new spatial planning
7. Detailed-Engineering Design	<ul style="list-style-type: none"> (x) Require new DEDs 	Information cost: <ul style="list-style-type: none"> (xiii) Research on geology, (xiv) Research on morphology, (xv) Research on model of the dam and its construction,
8. Memorandum of Agreement (MoA)	(xi) Does not have sufficient support due to many occurred uncertainties	Coordination cost: <ul style="list-style-type: none"> (xvi) Coordination meetings inviting actors involved to sign the MoA,
9. the Ciawi dam preparation team	(xii) Its existence is not sustain	Coordination cost: <ul style="list-style-type: none"> (xvii) Its existence was predicted only for 2014
10. the land acquisition team	<ul style="list-style-type: none"> (xiii). Require new DEDs, (xiv) Need to address land price speculation, (xv) Need to obtain collective asset ownership status (xvi) Need a permit for land acquisition which the permit requires (xvii) IEA and (xviii) new spatial plan first 	Information cost: <ul style="list-style-type: none"> (xviii) To find the new DEDs (xix) To find IEA (xx) To find new spatial plans (xxi) To find clear status on collective asset ownership status Negotiation cost: <ul style="list-style-type: none"> (xxi) To reduce land price speculation (opportunism), Coordination cost:

Process	Source of transaction costs	Occurred and potential transaction costs
		<ul style="list-style-type: none"> (xxii) To establish a specific arrangement for land acquisition
11. Revision of spatial plans	<ul style="list-style-type: none"> (xix) Need new DEDs to identify certain the dams' site (xx) Need the review of existing spatial plan (xxi) Need the draft of new spatial plan (xxii) Need deliberation process technically and politically, 	<p>Information cost:</p> <ul style="list-style-type: none"> (xxiii) To find new DEDs (xxiv) To review existing spatial plan (xxv) To prepare the draft of new spatial plan <p>Coordination meetings:</p> <ul style="list-style-type: none"> (xxvi) Coordination meetings with stakeholders, (xxvii) Technical deliberation process to upper government, (xxviii) Political deliberation process to be approved by local parliament,
12. Budgeting process for land acquisition	<ul style="list-style-type: none"> (xxiii) Need deliberation process administratively and politically (here, (xxiv) collective asset ownership status was possible considered), 	<p>Coordination cost:</p> <ul style="list-style-type: none"> (xxix) Coordination meeting to deliberate administratively, (xxx) Coordination meeting to deliberate politically to get the approval from local parliament <p>Information cost:</p> <ul style="list-style-type: none"> (xxxi) To obtain clarification and certain status on how to manage and to administrate transferred budget to other autonomous local government
13. Budget allocation for land acquisition	(xxv) Need to define site which requires (xxvi) the new spatial plan (revised)	<p>Information cost:</p> <ul style="list-style-type: none"> (xxxii) To find new spatial plan, (xxxiii) To find certain site for land acquisition (xxxiv) To calculate total cost of land acquisition
14. Financial transfer status of land acquisition budget	<ul style="list-style-type: none"> (xxvii) Need to address unclear status on performance of agency, (xxviii) Need to address unclear legal status (collective asset ownership asset status) 	<p>Agency cost:</p> <ul style="list-style-type: none"> (xxv) To clarify and to convince status of transferred budget and its implication to unit's performance, <p>Information cost:</p> <ul style="list-style-type: none"> (xxxvi) To find clarification on collective asset ownership asset status,
15. budgeting process for construction	<ul style="list-style-type: none"> (xxix) Need deliberation process administratively and politically (here, (xxx) collective asset ownership status was possible considered), (xxxi) Need acquired-land which it requires (xxxii) the new spatial plan (revised) first 	<p>Coordination cost:</p> <ul style="list-style-type: none"> (xxxvii) Coordination meeting to deliberate administratively, (xxxviii) Coordination meeting to deliberate politically to get the approval from local parliament <p>Information cost:</p> <ul style="list-style-type: none"> (xxxix) Evidence of acquired-land in the site (xl) New spatial plan, (xli) Information on collective asset ownership status
16. profit sharing among organisations involved	(xxxiii) Need to define collective asset ownership status	<p>Coordination cost:</p> <ul style="list-style-type: none"> (xlii) Coordination meetings to find a coherence perspective. (xliii) Coordination meetings to establish new regulation to accommodate collective asset ownership status.
17. maintenance cost post-construction	(xxxiv) Need to define collective asset ownership status	<p>Coordination cost:</p> <ul style="list-style-type: none"> (xliv) Coordination meetings to find a coherence perspective.

Process	Source of transaction costs	Occurred and potential transaction costs
		<ul style="list-style-type: none"> (xlv) Coordination meetings to establish new regulation to accommodate collective asset ownership status.
18. the dam ownership post-construction	(xxxv) Need to define collective asset ownership status	<p>Coordination cost:</p> <ul style="list-style-type: none"> (xlvi) Coordination meetings to find a coherence perspective. (xlvii) Coordination meetings to establish new regulation to accommodate collective asset ownership status.

Appendix 5.1

Assessment of Possible Improvements for Coordination Capacity of the Metropolitan Spatial Plan Using the Remediability Criterion

No.	Option	Possible instrument be applied		Remediableness Criterion		
		Administrative control	Incentive intensity	Description	Implementation	Gain
1.	Strategic plan	Establish a weak hierarchy among spatial plans, regulation on deliberation processes which do not need approval or recommendation from central government,	District government has more freedom and autonomy to prepare its local spatial plan, The central government can provide financial incentives to safeguard protected areas and to encourage economic growth for certain strategic areas,	Strategic plan associated with market form of governance,	It could be implemented, but two laws need to be amended first: the law of spatial planning and the law of finance balance between the central government and local polities.	Creating more fragmentation in the regional strategy. No control from the central government can stimulate the social horizontal dilemma. Local government can be more individualist, which may threaten attempts to solve floods. Reducing the number of steps involved in deliberation processes, which will have two implications: offering certainty or uncertainty in land-use planning

No.	Option	Possible instrument be applied		Remediableness Criterion		
		Administrative control	Incentive intensity	Description	Implementation	Gain
2.	Master-strategic plan	Applying commands, sanctions and compensation, particularly for rigid contents. A regulation process that accelerates an approval process from local parliament.	<p>District governments have less freedom and autonomy to prepare a local spatial plan containing rigid contents formulated in the metropolitan spatial plan.</p> <p>District governments have more freedom to prepare their spatial plans for a strategic area.</p> <p>The central government can provide financial and non-financial incentives to safeguard conservation and protected areas and to encourage economic growth for certain strategic areas.</p>	Master-strategic plan associated with hybrid form of governance.	It could be implemented, but the law of spatial planning and the law of finance balance between the central government and local polities need amending.	<p>Reducing fragmentation in the regional strategy.</p> <p>Providing flexibility and room to adapt to new challenges and new opportunities</p> <p>Control from the central government reducing horizontal social dilemmas.</p> <p>Local government can be more individualist, but still controlled by central government,</p> <p>Reducing the number of steps involved in deliberation processes, which can provide certainty</p>

No.	Option	Possible instrument be applied		Remediableness Criterion		
		Administrative control	Incentive intensity	Description	Implementation	Gain
3.	Master plan	<p>Establish strong hierarchy among spatial plans.</p> <p>Applying commands, sanctions and compensation</p>	-	<p>Master plan associated with hierarchical form of governance,</p>	<p>It could be implemented to provide certainty, but it may reduce flexibility to adapt new challenges and new opportunities.</p> <p>It needs law enforcement and implementation</p>	<p>Able to reduce fragmentation,</p> <p>Needs additional time and costs to prepare, deliberate and enact the metropolitan spatial plan,</p> <p>Difficult to adapt to new challenges and new opportunities.</p>

Appendix 5.2

Assessment of Possible Improvements To Coordination Mechanisms through Remedialness Criterion

No.	Option	Possible instrument be applied		Remedialness Criterion		
		Administrative control	Incentive intensity	Description	Implementation	Gain
1.	The formal-continuous mechanism	<p>Establish a formal rule for collective decisions,</p> <p>Establish joint ownership status of collective assets or take over investment as the owner of authority to produce certain projects.</p> <p>Enforcing rule of the law for land-use control,</p> <p>Establish a new rule that the national strategic projects have priority when conflicting with contents of spatial plan.</p>	-	<p>The formal-continuous mechanism associated with hierarchical form of governance.</p>	<p>Can be implemented, but it needs the amendment of several laws first: the law of local polity and the law of spatial planning,</p> <p>Should define a formal platform of metropolitan region first.</p>	<p>To accelerate collective decision making processes</p> <p>To safeguard collective action,</p> <p>To give certainty for legal permits,</p> <p>It needs a higher capacity of the strategic projects owner,</p> <p>New rule has potential to conflict with other rules, generating new transaction costs.</p>

No.	Option	Possible instrument be applied		Remediableness Criterion		
		Administrative control	Incentive intensity	Description	Implementation	Gain
2.	The informal-continuous mechanism	<p>Establish collective ownership asset status,</p> <p>Establish a rule that spatial plans of district strategic areas are enacted through technical deliberation, including approval from the central government, to cope with dynamic changes and to create certainty and legal permits.</p>	<p>Provide flexibility, connecting to the spatial plan, for cooperation, collaboration and collective action to obtain incentives, such as a political bargain and perceived by the actor/organisation as being in the public interest.</p> <p>District government has more freedom to prepare its spatial plan of district strategic area to adapt new opportunities and challenges</p>	The informal-continuous mechanism associated with a hybrid form of governance,	Can be implemented, but it needs the amendment of two laws first: the law of local polity and the law of spatial plan.	<p>To provide room for democratization: free choice for collective decisions</p> <p>It manages fragmentation and provides room for cooperation, collaboration and dynamic changes</p> <p>To safeguard collective action.</p> <p>It promises to provide spatial planning more quickly to give certainty for legal permits; to enhance adaptation capacity</p> <p>To give certainty for legal permits.</p>
3.	The informal-discontinuous mechanism	<p>-</p> <p>Less rules to promote collective action; most rules to regulate and promote inward looking perspectives, focusing on individual performance</p>	Collective action is encouraged/stimulated by a motivation to obtain potential incentives, such as political bargaining and being perceived as caring about public interest.	The informal-discontinuous mechanism associated with the market form of governance	<p>Enhancing individual performance to solve metropolitan problems.</p> <p>However, it needs bigger individual capacity.</p>	<p>Individual performance may be better at reducing complicated uncertainty compared to collective action (i.e. an asset problem),</p> <p>Needs extra effort to enhance individual capacity.</p> <p>Increase fragmentation, social dilemma and free riding.</p>